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Kalekim

Kalekim A.Ş, which was founded in 1973 by Dr.(h.c.) Ibrahim Bodur, who is also the founder of Kale Group of Companies, started its activities with the production of ceramic adhesives and joint fillers and continues today with producing all kinds of chemicals for the construction sector.

In the year 2003 Kalekim A.Ş. decided to merger with Kaleterasit A.Ş., founded in 1968, one of the leader companies of Kale Group in the plaster and painting industry. After this merger, Kalekim A.Ş. added Kale-branded decorative ready-mixed colored plasters, interior and exterior paints into its product range.

In 2004, Kalekim entered the thermal insulation sector together with its business partners Dow Chemical and Mardav A.Ş, under the brand name Blue’Safe Mavi Kale. Along with the growing thermal insulation sector, Kalekim added Stone Wool and EPS to its product range and started marketing these two products under the brand name Kale Thermal Insulation Systems.

Kalekim plays a leading role in the industry by making bold and significant moves in water insulation products and introducing innovative products. Kale, the brand for interior and exterior paints as well as decorative exterior plasters, is among the top 5 brands in the industry in Turkey.

With giant investments in production technologies and R&D activities, Kalekim manufactures top quality products. The company has become a leading powerful firm in technology and R&D activities thanks to its experience in the industry. Regardless of which geography it carries out its activities, Kalekim is capable of manufacturing all products in all facilities with the same quality and performance with raw materials of the respective region and in conformance with European Quality Standards. ISO 9001 Quality Management System, TSE and European Standards maintain the quality during production, application and for long years in all Kalekim products.

Kalekim performs its manufacturing operations domestically in Istanbul, Isparta, Mersin, Yozgat, Erzurum and Mardin facilities. Today, with a total production capacity of 700 thousand tons of construction chemicals including ceramic adhesives, joint fillers, water and thermal insulation materials, mastics, foams, ceramic cleaning and maintenance materials, industrial floor and surface preparation materials, Kalekim is also capable of producing 100 thousand tons of interior and exterior paints and decorative exterior plasters.

Kalekim is committed to becoming the market leader, and Kalekim products are exported to over 70 countries.
Among 70 countries. Always the best.

- Afghanistan • Albania • Algeria • Azerbaijan • Bahrain • Belarus • Belgium • Bulgaria • Burkina Faso
- Cameroon • Congo • Denmark • Djibouti • England • Equatorial Guinea • Guinea • Ethiopia • France
- Georgia • Germany • Ghana • Greece • Iran • Iraq • Ireland • Jordan • Kazakhstan • Kenya • Kosovo
- Kuwait • Kyrgyzstan • Lebanon • Libya • Macedonia • Madagascar • Malta • Moldova • Montenegro
- Morocco • Netherlands • Nigeria • Oman • Qatar • Pakistan • Palastine • P. R. China • Reunion • Romania
- Russia • Rwanda • Saudi Arabia • Sierra Leone • Slovakia • South Africa • South Sudan • Sudan • Syria
- Sweden • Switzerland • Tajikistan • Tanzania • Taiwan • Tunisia • Turkish Republic of Northern Cyprus
- Turkmenistan • Uganda • Ukraine • United Arab Emirates • United Kingdom • Uzbekistan • Yemen
Aesthetics and durability

Modern design and durability get together in Artcrete… Inspiring from art, Artcrete creates one of a kind ambiances with its marble look and plain design.
KALEKIM R&D
LEADER IN THE INDUSTRY
LEADER IN TECHNOLOGY

Kalekim, who by far is the leader in the construction chemicals industry since 1973, fastens this title with its R&D investments. With devices that are worldwide available only in limited numbers, Kalekim always develops the best solutions and continues its innovative works.

Today, the Kalekim Research and Development department carries out activities with 43 year of experience for quite a wide range of products such as ceramic applications, waterproofing, thermal insulation flooring systems, paints, plasters and surface preparation materials also containing chemicals such as cement, acrylic, epoxy and polyurethane.

With the vision to solve its R&D works not only by performance based analysis but on physical and chemical based analysis, Kalekim established the “Kalekim Applied Research Laboratory” and equipped it with the latest technological devices. In this technology-base, created by Kalekim, while running works with instrumental analysis tools that provide the ability to carry on projects with the state and university, all tests related to quality and customer satisfactions guaranteeing European Standards are being executed.

A special technology, which is developed by Kalekim and the patent belongs to Kalekim, allows to determine the adhesive under the tiles even many years after the product has been applied. With a special raw material that is added to the tile adhesive during production, examinations had shown that even after many years the product as well as the brand could be determined with this technology which makes it a pioneer in the industry.

Due to its scientific works, Kalekim is invited as participant to many national and international platforms, presenting its works and known to the world with its R&D strength.
8  Kalia İpek Mat
9  Kalia Mat
10 Kalia Tavan
11 Joker Plus İpek Mat
12 Joker Plus Mat
13 Joker Plus Plastik
14 Optima
15 Suten
16 Tavan Plastiği
5163 Kalia İpek Mat
Photocatalytic, Mildew and Algae Resistant, Silky Matt, Silicone Enhanced, Water Based Interior Wall Paint

Description
Acrylic emulsion based, photocatalytic (activated by light), mildew and algae resistant, silicone enhanced, easy to clean, perfectly scrub resistant, silky matt interior wall paint.

Fields of Application
On interiors suitably prepared new mineral surfaces such as concrete, mortar, cement panel, gypsum panel etc. and on old painted surfaces, putty, glass textile and on wallpaper.

Properties
— Photocatalytic; by the activation of light it decomposes the harmful materials such as nicotine fume and bad odours transferred by air movements on interior surfaces. Therefore, cleans the air in the room and enables walls to remain clean for a long time.
— Silicone enhanced. Cleanable with its perfect scrub resistance therefore stain free.
— Provides relief for those suffering from asthma in particular by resisting against algae and mildew growth.
— Easily re-touchable, does not leave brush or roller marks.
— High water vapour permeability, allowing the building to breathe.
— Superior hiding power.
— Solvent free and practically odourless.
— Water thinnable and ecologically compatible.

Technological Properties
(at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data</th>
<th>Technical Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition</td>
<td>Acrylic emulsion based</td>
</tr>
<tr>
<td>Density</td>
<td>Approx. 1.35 g/cm³</td>
</tr>
</tbody>
</table>

Application Data
Application Temperature Range (+5°C) - (+35°C)
Drying Time Recoatable after 6 hours and thoroughly dry after 24 hours.
Lower temperatures and/or higher relative humidity will lengthen the drying process.
Consumption Depending on the evenness and the porosity of the surface approximately 0.090 lt/m² per coat.
Application Tools Brush, Roller, Airless spraying equipment

Performance Data
Water Vapour Permeability SD (m) (TS EN ISO 7783 - 2) Approx. 0.250
Scrub Resistance (cycle) (ASTM 2486) > 500
Gloss (60°) (ISO 2813) Approx. 7
Service Temperature (-30°C) - (+60°C)

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application.
— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
— If necessary, fill the surface cracks and even the substrate with Kale İNCE AKRİLİK MACUN or Kale MACUNART.
— To have a fine, silky texture, smoothen the entire surface by using Kale İNCE AKRİLİK MACUN or Kale MACUNART.
— Prime the solvent based painted surfaces or water based painted surfaces on which color change is desired and old painted water based and very dirty surfaces with Kale SİLASTAR and new and porous surfaces with Kale SATEN ALÇI ASTARI or Kale SİLASTAR.
— After thoroughly mixing, thin KALİA İPEK MAT with clean water up to a maximum of 10% by volume and apply in two coats by using a brush, roller or spray system.
— Wait for a minimum of 6 hours before applying the final coat.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5°C during the application and 24 hours following the application.

Safety Advices
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened pail.

Packaging
— 2,5 lt, 7,5 lt and 15 lt pails.
— 2,5 lt packages packed together in 2s.
**5156 Kalia Mat**
Photocatalytic, Mildew and Algae Resistant, Silicone Enhanced, Matt, Water Based Interior Wall Paint

**Description**
Acrylic emulsion based, photocatalytic (activated by light), mildew and algae resistant, silicone enhanced, scrub resistant, matt, interior wall paint.

**Fields of Application**
On interiors, suitably prepared new mineral surfaces such as concrete, mortar, cement panel, gypsum panel etc. and on old painted surfaces, putty, glass textile and on wallpaper.

**Properties**
— Photocatalytic; by the activation of light it decomposes the harmful materials such as nicotine fume and bad odours transferred by air movements on interior surfaces. Therefore, cleans the air in the room and enables walls to remain clean for a long time.
— Provides relief for those suffering from asthma in particular by resisting against algae and mildew growth.
— Silicone enhanced. Cleanable with its perfect scrub resistance.
— Provides surfaces with matt, clean decorative finish.
— High water vapour permeability, allowing the building to breathe.
— Superior hiding power.
— Solvent free and practically odourless.
— Water thinnable and ecologically compatible.

**Application**
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application.
— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
— If necessary, fill the surface cracks and even the substrate with Kale INCE AKRİLİK MACUN or Kale MACUNART.
— To have a fine, smooth texture, smoothen the entire surface by using Kale INCE AKRİLİK MACUN or Kale MACUNART.
— Prime the solvent based painted surfaces or water based painted surfaces on which color change is desired and old painted water based and very dirty surfaces with Kale SATEN ALÇI ASTARI or Kale SİLASTAR.
— After thoroughly mixing, thin KALİA MAT with clean water up to a maximum of 25% by volume and apply in two coats by using a brush, roller or spray system.
— Wait for a minimum of 2 hours before applying the final coat.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5°C during the application and 24 hours following the application.

**Safety Advices**
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

**Storage**
— Store between 5°C-35°C in its unopened pail.

**Packaging**
— 2,5 lt, 7,5 lt and 15 lt pails
— 2,5 lt packages packed together in 2s.

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### Technical Properties

**General Data**
Colors: Thousands of colors possible from a mixture of white and A, B, C, bases using the Renk Bankası and the Renk Ustası.
Composition: Acrylic emulsion based
Density: Approx. 1.45 g/cm³

**Application Data**
Application Temperature Range: (+5°C) - (+35°C)
Drying Time: Recotatable after 2 hours and thoroughly dry after 24 hours
Lower temperatures and/or higher relative humidity will lengthen the drying process.
Consumption: Depending on the evenness and the porosity of the surface approximately 0.090 lt/m² per coat.
Application Tools: Brush, Roller, Airless spraying equipment

**Performance Data**
Water Vapour Permeability: SD (m) (TS EN ISO 7783 - 2) Approx. 0.100
Scrub Resistance (cycle) (ASTM 2486) > 250
Gloss (60°) (ISO 2813) Approx. 3
Service Temperature: (-30°C) - (+80°C)

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### Environmental Friendly

Certificates of Quality: TS 5808

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### TS EN 13300 Classification

<table>
<thead>
<tr>
<th>Class</th>
<th>Wet Scrub Resistance</th>
<th>Contrast Ratio</th>
<th>Largest Grain Size</th>
<th>Gloss</th>
<th>Fungi and Algae Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 2</td>
<td>Class 1 (5.0 m²/H)</td>
<td>Class S1</td>
<td>Class G4</td>
<td>Class K1</td>
<td></td>
</tr>
</tbody>
</table>

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**Environmentally Friendly**
5180 Kalia Tavan
Photocatalytic, Mildew and Algae Resistant, Washable, Water Based Ceiling Paint

**Description**
Acrylic emulsion based, photocatalytic (activated by light), mildew and algae resistant, washable, matt ceiling paint.

**Fields of Application**
On suitably prepared new mineral ceilings such as concrete, mortar, concrete panel etc. and on old painted ceilings.

**Properties**
- Photocatalytic; by the activation of light it decomposes the harmful materials such as nicotine fume and bad odours transferred by air movements on interior surfaces. Therefore, cleans the air in the room and enables ceiling to remain clean for a long time.
- Provides relief for those suffering from asthma in particular by resisting against algae and mildew growth.
- Superior hiding power.
- High water vapour permeability allowing the building to breathe.
- Solvent free and practically odourless.
- Water thinnable and ecologically compatible.

**Application**
- The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementous substrates must be cured at least 28 days before application.
- If necessary, fill the surface cracks and even the substrate with Kale İNCE AKRİLİK MACUN or Kale MACUNART.
- To have a fine, smooth texture, smoothen the entire surface by using Kale İNCE AKRİLİK MACUN or Kale MACUNART.
- Prime the solvent based painted surfaces or water based painted surfaces on which color change is desired and old painted water based and very dirty surfaces with Kale SILASTAR and new and porous surfaces with Kale SATEN ALCİ ASTARI or Kale SILASTAR.
- After thoroughly mixing, thin KALİA TAVAN with clean water up to a maximum of 30% by volume and apply in two coats by using a brush, roller or spray system.
- Wait for a minimum of 2 hours before applying the final coat.
- Clean the tools with water.
- Ensure that the air and surface temperatures are above 5°C during the application and 24 hours following the application.

**Safety Advices**
- S2 Keep out of the reach of children.
- S24/25 Avoid contact with skin and eyes.
- S46 If swallowed, seek medical advice.

**Storage**
- Store between 5°C-35°C in its unopened pail.

**Packaging**
- 3,5 kg, 10 kg and 17,5 kg pails.
- 3,5 kg packages packed together in 2s.

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**Technical Properties**
(at 23°C and 50% RH)

**General Data**
- Colors: White, tintable by Renk Ustası
- Composition: Acrylic emulsion based
- Thinner: Water
- Density: Approx. 1,66 g/cm³

**Application Data**
- Application Temperature Range: (+5°C) - (+35°C)
- Drying Time: Recoatable after 2 hours and thoroughly dry after 24 hours.
- Lower temperatures and/or higher relative humidity will lengthen the drying process.
- Consumption: Approximately 0,110 kg/m² per coat on old painted surfaces and 0,150 kg/m² per coat on new surfaces.
- Application Tools: Brush, Roller, Airless spraying equipment

**Performance Data**
- Water Vapour Permeability: Approx. 0,100
- Scrub Resistance (cycle) (ASTM 2486): > 250
- Glass (60°) (ISO 2813): Approx. 3
- Service Temperature: (-30°C) - (+80°C)

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**Environmental Friendly**

**Certificates of Quality:** TS 5808

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**TS EN 13300**

**Classification**
- Wet Scrub Resistance: Class 3
- Contrast Ratio: Class 2 (5,5 m²/lt)
- Largest Grain Size: Class S1
- Gloss: Class G3
- Fungi and Algae Resistance: Class K1
5167 Joker Plus İpek Mat
Silky Matt, Silicone Enhanced, Water Based Interior Wall Paint

Description
Acrylic emulsion based, silicone enhanced, scrub resistant, easily cleanable, silky matt interior wall paint.

Fields of Application
On interiors, suitably prepared new mineral surfaces such as concrete, mortar, cement panel, gypsum panel etc, on old painted surfaces, putty, glass textile or wallpaper.

Properties
— Silky texture provides walls a smooth and unique gloss with perfect light dispersion.
— Perfect scrub resistant, easy to clean and stain free.
— Superior hiding power.
— Easily re-touchable, does not leave roller marks.
— High water vapour permeability, allowing building to breathe.
— Since solvent free and practically odorless.
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application.
— Sand glossy and/or old solvent based painted surfaces to improve adhesion and remove the occurring powder. Thoroughly and remove the occurring powder.
— If necessary, fill the surface cracks and even the substrate with Kale İNCE AKRİLİK MACUN or Kale MACUNART.
— To have a fine, silky texture smoothen the entire surface by using Kale İNCE AKRİLİK MACUN or Kale MACUNART.
— Prime the solvent based painted surfaces or water based painted surfaces on which color change is desired and old painted water based and very dirty surfaces with Kale SİLASTAR and new and porous surfaces with Kale SATEN ALÇI ASTARI or Kale SİLASTAR.
— After thoroughly mixing, thin JOKER PLUS İPEK MAT with clean water up to a maximum of 10% by volume and apply in two coats by using a brush, roller or spray system.
— Wait for a minimum of 6 hours before applying the final coat.
— Clean the application tools with water.
— Ensure that the air and surface temperatures are above 5°C during the application and 24 hours following the application.

Safety Advises
— S2 Keep out of the reach of children
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened pail.

Packaging
— 2,5 lt, 7,5 lt and 15 lt pails.
— 2,5 lt packages packed together in 2s.

Technical Properties (at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
<td>Thousands of colors possible from a mixture of white and A, B, C bases by using the Renk Bankası and the Renk Ustası.</td>
</tr>
<tr>
<td>Composition</td>
<td>Acrylic emulsion based</td>
</tr>
<tr>
<td>Thinner</td>
<td>Water</td>
</tr>
<tr>
<td>Density</td>
<td>Approx. 1.36 g/cm³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+35°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Recoatable after 6 hours and thoroughly dry after 24 hours. Lower temperatures and/or higher relative humidity will lengthen the drying process.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness and the porosity of the surface approximately 0,090 lt/m² per coat.</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Brush, Roller, Airless spraying equipment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Vapour Permeability</td>
<td>SD (m) (TS EN ISO 7183 - 2)</td>
</tr>
<tr>
<td>Scrub Resistance (cycle) (ASTM 2468)</td>
<td>&gt; 400</td>
</tr>
<tr>
<td>Gloss (60°) (ISO 2813)</td>
<td>Approx. 5</td>
</tr>
<tr>
<td>Service Temperature</td>
<td>(-30°C) - (+80°C)</td>
</tr>
</tbody>
</table>

TS EN 13300 Classification

<table>
<thead>
<tr>
<th>Wet Scrub Resistance</th>
<th>Class 1</th>
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</thead>
<tbody>
<tr>
<td>Contrast Ratio</td>
<td>Class 2 (5,5 m²/l)</td>
</tr>
<tr>
<td>Largest Grain Size</td>
<td>Class S1</td>
</tr>
<tr>
<td>Gloss</td>
<td>Class G2</td>
</tr>
</tbody>
</table>

Certificates of Quality: TS 5808
### Description

Acrylic emulsion based, silicone enhanced, scrub resistant, matt interior wall paint.

### Fields of Application

On interiors, suitably prepared new mineral surfaces such as concrete, mortar, cement panel, gypsum panel etc, on old painted surfaces, putty, glass textile or wallpaper.

### Properties

- Superior hiding power.
- Scrub resistant.
- Provides matt, clean decorative surfaces.
- High water vapour permeability, allowing building to breathe.
- Solvent free and practically odourless.
- Water thinnable and ecologically compatible.

### Application

- The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application.
- Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
- If necessary, fill the surface cracks and even the substrate with Kale İNCE AKRİLİK MACUN or Kale MACUNART.
- Prime the solvent based painted surfaces or water based painted surfaces on which color change is desired and old painted water based and very dirty surfaces with Kale SİLASTAR and new and porous surfaces with Kale SATEN ALÇI ASTARI or Kale SİLASTAR.

### Technical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
<td>Thousands of colors possible from a mixture of white and A, B, C bases by using the Renk Bankası and the Renk Ustası.</td>
</tr>
<tr>
<td>Composition</td>
<td>Acrylic emulsion based</td>
</tr>
<tr>
<td>Thinner</td>
<td>Water</td>
</tr>
<tr>
<td>Density</td>
<td>Approx. 1,54 g/cm³</td>
</tr>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+35°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Recoatable after 2 hours and thoroughly dry after 24 hours.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness and the porosity of the surface approximately 0,100 lt/m² per coat.</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Brush, Roller, Airless spraying equipment</td>
</tr>
<tr>
<td>Water Vapour Permeability (SD m)</td>
<td>Approx. 0,100</td>
</tr>
<tr>
<td>Scrub Resistance (cycle)</td>
<td>&gt; 250</td>
</tr>
<tr>
<td>Gloss (60°) (ISO 2813)</td>
<td>Approx. 3</td>
</tr>
<tr>
<td>Service Temperature</td>
<td>(-30°C) - (+80°C)</td>
</tr>
</tbody>
</table>

### Safety Advices

- S2 Keep out of the reach of children.
- S24/25 Avoid contact with skin and eyes.
- S46 If swallowed, seek medical advice.

### Storage

- Store between 5°C-35°C in its unopened pail.

### Packaging

- 2,5 lt, 7,5 lt and 15 lt pails
- 2,5 lt packages packed together in 2s.

### Certificates of Quality

- TS 5808
- TS EN 13300
- Wet Scrub Resistance: Class 2
- Contrast Ratio: Class 1 (5,0 m²/lt)
- Largest Grain Size: Class S1
- Gloss: Class G3
### Description
Acrylic emulsion based, scrub resistant, matt interior wall paint.

### Fields of Application
On interiors, suitably prepared new mineral surfaces such as concrete, mortar, cement panel, gypsum panel etc, on old painted surfaces, putty, glass textile or wallpaper.

### Properties
- Superior hiding power.
- Scrub resistant.
- Provides matt, clean decorative surfaces.
- High water vapour permeability, allowing building to breathe.
- Solvent free and practically odourless.
- Water thinnable and ecologically compatible.

### Application
- The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application.

### Safety Advices
- S2 Keep out of the reach of children.
- S24/25 Avoid contact with skin and eyes.
- S46 If swallowed, seek medical advice.

### Storage
- Store between 5°C-35°C in its unopened pail.

### Packaging
- 2.5 lt, 7.5 lt and 15 lt pails
- 2.5 lt packages packed together in 2s.

### Technical Properties (at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data</th>
<th>Wet Scrub Resistance</th>
<th>Contrast Ratio</th>
<th>Largest Grain Size</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
<td>Class 2</td>
<td>Class 1 (5,0 m²/h)</td>
<td>Class S1</td>
<td>Class G3</td>
</tr>
<tr>
<td>Composition</td>
<td>Acrylic emulsion based</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinner</td>
<td>Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>Approx. 1,54 g/cm³</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+35°C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drying Time</td>
<td>Recoatable after 2 hours and thoroughly dry after 24 hours. Lower temperatures and/or higher relative humidity will lengthen the drying process.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness and the porosity of the surface approximately 0,100 lt/m² per coat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Tools</td>
<td>Brush, Roller, Airless spraying equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Vapour Permeability</td>
<td>SD (m) (TS EN ISO 7183 - 2)</td>
<td>Approx. 0,100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scrub Resistance (cycle) (ASTM 2468)</td>
<td></td>
<td>&gt; 250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gloss (80°) (ISO 2813)</td>
<td>Approx. 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Temperature</td>
<td>(−30°C) - (+60°C)</td>
<td></td>
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</table>

### TS EN 13300 Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Wet Scrub Resistance</th>
<th>Contrast Ratio</th>
<th>Largest Grain Size</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 2</td>
<td>Class 1 (5,0 m²/h)</td>
<td>Class S1</td>
<td>Class G3</td>
<td></td>
</tr>
</tbody>
</table>

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5171 Joker Plus Plastik
Matt, Water Based Interior Wall Paint
Kale — Interior Wall Paints

5155 Optima
First Quality Water Based, Matt Interior Wall Paint

Description
Acrylic emulsion based, matt, first quality interior wall paint with excellent scrub resistance.

Fields Of Application
On interiors, suitably prepared new mineral surfaces such as concrete, mortar, cement panel, gypsum panel etc. and on old painted surfaces, putty, glass textile and on wallpaper.

Properties
— Superior hiding power.
— High water vapour permeability, allowing building to breathe.
— Provides surfaces matt, clean decorative finish.
— Excellent scrub resistance, cleans easily, will not blister, crack or fade.
— Solvent free and practically odourless.
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application.
— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powders.
— If necessary, fill the surface cracks and even the substrate with Kale İNCE AKRİLİK MACUN or Kale MACUNART.
— To have a fine, silky texture, smoothen the entire surface by using Kale İNCE AKRİLİK MACUN or Kale MACUNART.
— Prime the solvent based painted surfaces or water based painted surfaces on which color change is desired and old painted water based and very dirty surfaces with Kale SATEN ALCİ ASTARI or Kale SILASTAR.
— After thoroughly mixing, thin OPTİMA with clean water up to a maximum of 25% by volume and apply in two coats by using a brush, roller or spray system.
— Wait for a minimum of 2 hours between coats.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5°C during the application and 24 hours following the application.

Safety Advices
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened pail

Packaging
— 2,5 lt, 7,5 lt and 15 lt pails.
— 2,5 lt packages packed together in 2s.

Technical Properties
(at 23°C and 50% RH)

General Data
Colors
Thousands of colors possible from a mixture of white and A, B, C bases using the Renk Bankası and the Renk Ustası.
Composition
Acrylic emulsion based
Thinner
Water
Density
Approx. 1,46 g/cm³
Application Data
Application Temperature Range
(+5°C) - (+35°C)
Drying Time
Recoatable after 2 hours and thoroughly dry after 24 hours.
Lower temperatures and/or higher relative humidity will lengthen the drying process.
Consumption
Depending on the evenness and the porosity of the surface approximately 0,100 lt/m² per coat
Application Tools
Brush, Roller, Airless spraying equipment
Performance Data
Water Vapour Permeability
SD (m) (DIN 52615) Approx. 0,200
Scrub Resistance (cycle) (ASTM 2486) > 250
Gloss (60°) (ISO 2813) Approx. 3
Service Temperature
(-30°C) - (+80°C)

Complies with: TS 5808
5161 Suten
Satin, water based, interior wall paint

Description
Acrylic emulsion based, perfectly scrub resistant, easy to clean, satin textured, silky gloss wall paint.

Fields Of Application
On interiors, suitably prepared new mineral surfaces such as concrete, mortar, cement panel, gypsum panel etc. and on old painted surfaces, putty, glass textile and on wallpaper.

Properties
— Satin textured, silky gloss.
— Perfectly scrub resistant, cleans up easily and stain resistant.
— In contrast to synthetic satin paints; does not lose its gloss by time, does not yellow or crack.
— Allows painted places to be in use after a short period of time
— Superior hiding power.
— High water vapour permeability.
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitous substrates must be cured at least 28 days before application.
— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
— If necessary, fill the surface cracks and even the substrate with Kale İNCE AKRİLİK MACUN or Kale MACUNART.
— To have a fine, silky texture, smoothen the entire surface by using Kale İNCE AKRİLİK MACUN or Kale MACUNART.
— Prime the solvent based painted surfaces or water based painted surfaces on which color change is desired and old painted water based and very dirty surfaces with Kale SILASTAR and new and porous surfaces with Kale SATEN ALCİ ASTARI or Kale SILASTAR.
— After thoroughly mixing, thin SUTEN with clean water up to a maximum of 15% by volume and apply in two coats by using a brush, roller or spray system.
— Wait for a minimum of 6 hours between coats.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5°C during the application and 24 hours following the application.

Safety Advices
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Packaging
— 2.5 lt, 7.5 lt and 15 lt pails

Technical Properties
(at 23°C and 50% RH)

General Data
Colors
Thousands of colors possible from a mixture of white and A, B, C bases using the Renk Bankası and the Renk Ustası.
Composition
Acrylic emulsion based
Thinner
Water
Density
Approx 1.25 g/cm³

Application Data
Application Temperature Range
(+5°C) - (+35°C)
Drying Time
Recoatable after 6 hours and thoroughly dry after 24 hours.
Lower temperatures and/or higher relative humidity will lengthen the drying process.
Consumption
Depending on the evenness and the porosity of the surface approximately 0.090 lt/m² per coat.
Application Tools
Brush, Roller, Airless spraying equipment

Performance Data
Water Vapour Permeability
SD (m) (DIN 52615) Approx. 0.300
Scrub Resistance (cycle) (ASTM 2486) > 500
Gloss (60°) (ISO 2813) Approx. 20
Service Temperature
(-30°C) - (+80°C)

Complies with: TS 5808
**5181 Tavan Plastiği**  
Water Based Ceiling Paint

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**Description**  
Acrylic emulsion based ceiling paint.

**Fields of Application**  
On suitably prepared new mineral ceilings (concrete, mortar, cement panel etc.) or on old painted ceilings.

**Properties**  
- Superior hiding power
- Excellent water vapour permeability
- Provides matt, smooth surfaces
- Does not blister or crack
- Solvent free and practically odourless,
- Water thinnable and ecologically compatible.

**Application**  
- The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application.
- If necessary, fill the surface cracks and even the substrate with Kale İNCE AKRİLİK MACUN or Kale MACUNART.
- To have a fine, smooth texture, smoothen the entire surface by using Kale İNCE AKRİLİK MACUN or Kale MACUNART.
- Prime the solvent based painted surfaces or water based painted surfaces on which color change is desired and old painted water based and very dirty surfaces with Kale SİLASTAR and new and porous surfaces with Kale SATEN ALCİ ASTRARI or Kale SİLASTAR.
- After thoroughly mixing, thin TAVAN PLASTİĞİ with clean water up to a maximum of 30% by volume and apply in two coats by using a brush, roller or spray system.
- Wait for a minimum of 2 hours before applying the final coat
- Clean the tools with water.
- Ensure that the air and surface temperatures are above 5°C during the application and 24 hours following the application.

**Safety Advices**  
- S2 Keep out of the reach of children.
- S24/25 Avoid contact with skin and eyes.
- S46 If swallowed, seek medical advice.

**Storage**  
- Store between 5°C-35°C in its unopened pail.

**Packaging**  
- 3,5 kg, 10 kg, 17,5 kg and 20 kg pails
- 3,5 kg packages packed together in 2s.

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**Technical Properties**  
(at 23°C and 50% RH)

### General Data
- **Colors**: White, Tintable by Renk Ustası
- **Composition**: Acrylic emulsion based
- **Thinner**: Water
- **Density**: Approx. 1.80 g/cm³

### Application Data
- **Application Temperature Range**: (+5°C) - (+35°C)
- **Drying Time**: Recoatable after 2 hours and thoroughly dry after 24 hours.
- **Consumption**: Approximately 0,110 kg/m² per coat on old painted surfaces and 0,150 kg/m² per coat on new surfaces.

### Performance Data
- **Water Vapour Permeability**: SD (m) (TS EN ISO 7785 - 2) Approx. 0.010
- **Gloss (80°) (ISO 2813)**: Approx. 3
- **Service Temperature**: (-30°C) - (+80°C)

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**TS EN 13300 Classification**
- Wet Scrub Resistance Class 5
- Contrast Ratio Class 2 (6,0 m²/lt)
- Largest Grain Size Class S1
- Gloss Class G3

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**Certificates of Quality**: TS 5808
Kale — Decorative Products
Decorative Products

20 İSTANBUL Sedef
22 İSTANBUL Metalik
24 İSTANBUL Reflekte
26 İSTANBUL Stucco Satine
28 İSTANBUL Orion
29 İSTANBUL Aura
30 İSTANBUL Antique
31 İSTANBUL Antique Coat
32 Artcrete / Artcrete Coat
34 Glass Plaster
36 Betonart
37 Betonart Fresh
38 Vitray Lak
39 Vitray Fon
Description
Acrylic emulsion based decorative interior paint with pearl effect.

Fields of Application
On interiors suitably prepared new mineral surfaces such as mortar, concrete, cement panel, gypsum panel etc, on old painted surfaces, glass textile, putty and wall paper to create a decorative effect and on wood and metal surfaces for hobby purposes.

Properties
- Pearl Effect.
- Easily cleanable with its scrub resistance.
- High water vapour permeability.
- Provides the possibility to create infinite number of patterns with respect to the used application tool, method and the imagination of the user.
- Solvent free and practically odourless.
- Water thinnable and ecologically compatible.

Application
- The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application.
- If necessary, fill the surface cracks and even the substrate with Kale İNCE AKRİLİK MACUN or Kale MACUNART.
- To have a fine, smooth texture, smoothen the entire surface by using Kale İNCE AKRİLİK MACUN or Kale MACUNART.
- Prime old painted and very dirty surfaces with Kale SİLASTAR, new and porous surfaces with Kale SATEN ALCİ ASTARI or Kale SİLASTAR.
- Apply KALİA MAT or KALİA İPEK MAT in 2 coats after the primer application.
- Apply İS7ANBUL Sedef by one of the following methods after the paint application:
  A. After thinning with 10% of clean water, İS7ANBUL Sedef should be applied with roller or brush and desired patterns are created with decorative application tools before it dries.
  B. Desired patterns are formed on the surface by padding İS7ANBUL Sedef with a sponge, paper or piece of cloth.
- Clean the tools with water.
- Ensure that the air and surface temperatures are above 5°C during the application and 24 hours following the application.

Safety Advices
- S2 Keep out of reach of children.
- S24/25 Avoid contact with skin and eyes.
- S46 If swallowed, seek medical advice.

Storage
- Store between 5°C-35°C in its unopened pail.

Packaging
- 1 kg, 2.5 kg and 15 kg pails.
- 1 kg and 2.5 kg packages packed together in 2s.

Technical Properties
(at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
<td>9 colors in its color chart. Tintable by Renk Ustası.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness and the porosity of the surface approximately 0.055 - 0.160 kg/m²</td>
</tr>
<tr>
<td>Composition</td>
<td>Acrylic emulsion based</td>
</tr>
<tr>
<td>Thinner</td>
<td>Water</td>
</tr>
<tr>
<td>Density</td>
<td>Approx. 1.06 g/cm³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+35°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Tack-free time 30 minutes and thoroughly dry after 24 hours. Lower temperatures and/or higher relative humidity will lengthen the drying process.</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Brush, Roller, Airless spraying equipment, decorative application tools (sponge, spatula, etc.)</td>
</tr>
</tbody>
</table>
İS7ANBUL Sedef Colors

NOTICE! Due to printing techniques, there may be differences between color tones shown here and emerged after application.
5321 İŞ7ANBUL Metalik
Decorative Interior Paint with Metallic Effect

Description
Acrylic emulsion based decorative interior paint with metallic effect.

Fields of Application
On interiors suitably prepared new mineral surfaces such as mortar, concrete, cement panel, gypsum panel etc., on old painted surfaces, glass textile, putty and wall paper to create a decorative effect.

Properties
— Metallic luster.
— Easily cleanable with its scrub resistance.
— Provides the possibility to create infinite number of patterns with respect to the used application tool, method and the imagination of the user.
— Superior hiding power
— High water vapour permeability.
— Solvent free and practically odourless.
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitous substrates must be cured at least 28 days before application.
— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
— If necessary, fill the surface cracks and even the substrate with Kale İNCE AKRİLİK MACUN or Kale MACUNART.
— To have a fine, smooth texture, smoothen the entire surface by using Kale İNCE AKRİLİK MACUN or Kale MACUNART.
— Prime old painted, very dirty surfaces, new and porous surfaces with Kale SILASTAR.
— For decorative patterns surface should be painted with KALİA İPEK MAT or KALİA MAT in 2 coats, after the paint application.
A. After thinning with 10% of clean water, İS7ANBUL METALİK should be applied with roller or brush and desired patterns are created with decorative application tools before it dries.
B. Desired patterns are formed on the surface by padding İS7ANBUL METALİK with a sponge, paper or piece of cloth.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5 °C during the application and 24 hours following the application.

Safety Advices
— S2 Keep out of reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened pail.

Packaging
— 1 kg and 2,5 kg pails.
— 1 kg and 2,5 kg packages packed together in 2s.

Technical Properties
(at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data:</th>
<th></th>
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<tbody>
<tr>
<td>Colors</td>
<td>5 colors in its color chart. Color Silver is tintable with Renk Ustası.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness and the porosity of the surface approximately 0,070-0,200 kg/m².</td>
</tr>
<tr>
<td>Composition</td>
<td>Acrylic emulsion based</td>
</tr>
<tr>
<td>Thinner</td>
<td>Water</td>
</tr>
<tr>
<td>Density</td>
<td>Approx. 1,05 g/cm³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application Data</th>
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<tbody>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+35°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Tack-free time 30 minutes and thoroughly dry after 24 hours. Lower temperatures and/or higher relative humidity will lengthen the drying process.</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Brush, Roller, Airless spraying equipment, decorative application tools (sponge, spatula, etc.)</td>
</tr>
</tbody>
</table>
İȘANBUL Metalik Colors

7056 Altın
7135 Bakır
7115 Bronz
7155 Lal
7184 Gümüş

ISTANBUL Metalik in 7184 Gümüş color can be tinted by the Kale Renk Ustası.
NOTICE! Due to printing techniques, there may be differences between color tones shown here and emerged after application.
Description
Acrylic emulsion based decorative interior paint with iridescent effect.

Fields of Application
On interiors suitably prepared new mineral surfaces such as mortar, concrete, cement panel, gypsum panel etc, on old painted surfaces, glass textile, putty and wall paper to create a decorative effect and on wood and metal surfaces for hobby purposes.

Properties
— Iridescent lustre.
— Easily cleanable with its scrub resistance.
— High water vapour permeability.
— Provides the possibility to create infinite number of patterns with respect to the used application tool, method and the imagination of the user.
— Solvent free and practically odourless.
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitous substrates must be cured at least 28 days before application.
— If necessary, fill the surface cracks and even the substrate with Kale İNCE AKRİLİK MACUN or Kale MACUNART.
— To have a fine, smooth texture, smoothen the entire surface by using Kale İNCE AKRİLİK MACUN or Kale MACUNART.
— Prime old painted and very dirty surfaces with Kale SİLASTAR, new and porous surfaces with Kale SATEN ALCİ ASTARI or Kale SİLASTAR.
— Apply KALİA MAT or KALİA İPEK MAT in 2 coats after the primer application. It is recommended to apply black colored paint in order to get the best iridescent effect.
— Apply İS7ANBUL REFLEKTE by one of the following methods after the paint application:
  A. After thinning with 10% of clean water, İS7ANBUL REFLEKTE should be applied with roller or brush, and create desired patterns with decorative application tools before it dries.
  B. Pad İS7ANBUL REFLEKTE with a sponge, paper or a piece of cloth to form desired patterns.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5 °C during the application and 24 hours following the application.

Safety Advices
— S2 Keep out of reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened pail.

Packaging
— 1 kg and 2,5 kg pails.
— 1 kg and 2,5 kg packages packed together in 2s.

Technical Properties (at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data</th>
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<tbody>
<tr>
<td>Colors</td>
<td>4 colors in its color chart.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness and the porosity of the surface approximately 0.055 - 0.160 kg/m²</td>
</tr>
<tr>
<td>Composition</td>
<td>Acrylic emulsion based</td>
</tr>
<tr>
<td>Thinner</td>
<td>Water</td>
</tr>
<tr>
<td>Density</td>
<td>Approx. 1.06 g/cm³</td>
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</table>

<table>
<thead>
<tr>
<th>Application Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+35°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Tack-free time 50 minutes and thoroughly dry after 24 hours. Lower temperatures and/or higher relative humidity will lengthen the drying process.</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Brush, Roller, Airless spraying equipment, decorative application tools (sponge, spatula, etc.)</td>
</tr>
</tbody>
</table>
İS7ANBUL Reflekte Colors

A different appearance can be obtained on a selected background color by mixing any of two colors of İS7ANBUL Reflekte paints. Mixing process is performed by dipping the application tool used in both colors separately.

NOTICE! Due to printing techniques, there may be differences between color tones shown here and emerged after application.
Description
Acrylic emulsion based decorative interior paint with marble effect.

Fields of Application
On interiors suitably prepared new mineral surfaces such as mortar, concrete, cement panel, gypsum panel etc, on old painted surfaces, glass textile, putty and wall paper to create a decorative effect.

Properties
— Marble effect
— Water based
— High water vapour permeability
— Glossy
— Easily cleanable
— Tintable with RENK USTASI

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry.
— For obtaining a fine, smooth surface, the entire surface should be smoothed by using Kale İNCE AKRİLİK MACUN or Kale MACUNART.
— Surface should be primed with Kale SATEN ALÇI ASTARI or Kale SILASTAR.
— After the primer application, İŞ7ANBUL STUCCO SATİNE should be applied without thinning in two coats on the whole surface with a trowel. 3-5 hours should pass between the coats. Special care should be shown for not leaving trowel marks on the surface; if needed surface should be sandpapered.
— After paint dries, İŞ7ANBUL STUCCO SATİNE should be applied without thinning in diagonal, vertical and horizontal dashed patterns by help of trowel or spatula. After that, spaces between the patterns should be filled with short patterns.
— Before the surface dries, excessive paint should be removed by trowel without damaging the pattern. A smooth surface should be obtained.
— In order to have a glossy finish, trowel must be moved over the surface by applying pressure in circular movements and in different directions.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5°C and the surface is rain free during application and 24 hours following the application.

Risk & Safety Phrases
— S 2 Keep out of reach of children
— S 24 / 25 Avoid contact with skin and eyes
— S 46 If swallowed, seek medical advice

Storage
— Store between 5°C-35°C in its unopened pail

Packaging
— 5 kg, 10 kg and 15 kg pails.
— 5 kg packages packed together in 2s.

Technical Properties
(at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
<td>Colors in İŞ7ANBUL Stucco Satine color chart and thousands of colors possible by using Renk Ustası</td>
</tr>
<tr>
<td>Composition</td>
<td>Acrylic emulsion based</td>
</tr>
<tr>
<td>Thinner</td>
<td>Water</td>
</tr>
<tr>
<td>Density</td>
<td>Approx. 1.7 g/cm³</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness and the porosity of the surface, and the desired texture approximately 0.3-0.5 kg/m²</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+35°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td></td>
</tr>
<tr>
<td>Tack free time</td>
<td>1-2 hours</td>
</tr>
<tr>
<td>Thoroughly dry</td>
<td>4-6 hours</td>
</tr>
<tr>
<td>Lower temperatures and/or higher relative humidity will lengthen the drying process.</td>
<td></td>
</tr>
</tbody>
</table>

Application Tools
Steel Trowel, Spatula
NOTICE! Due to printing techniques, there may be differences between color tones shown here and emerged after application.
5318 İS7ANBUL Orion
Decorative Interior Paint with Metallic Sandy Effect

**Description**
Acrylic emulsion based decorative interior paint with metallic sandy effect.

**Fields of Application**
On interiors suitably prepared new mineral surfaces such as mortar, concrete, cement panel, gypsum panel etc, on old painted surfaces, glass textile, putty and wall paper to create a decorative effect and on wood and metal surfaces for hobby purposes.

**Properties**
- Makes it possible to form creative textures by its shiny and granular structure.
- Creates different effects changing with light and perspective.
- High water vapour permeability.
- Solvent free and practically odourless.
- Water thinnable and ecologically compatible.

**Application**
- The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitous substrates must be cured at least 28 days before application.
- If necessary, fill the surface cracks and even the substrate with Kale İNCE AKRİLİK MACUN or Kale MACUN ART.
- To have a fine, smooth texture, smoothen the entire surface by using Kale İNCE AKRİLİK MACUN or Kale MACUN ART.
- Prime new, old painted, very dirty surfaces with Kale SILASTAR.
- Apply İSTANBUL ORION using effect brush by one of the following methods after the paint application:
  A. İSTANBUL ORION should be applied homogenously with short and straight touches to have a parallel lined texture.
  B. İSTANBUL ORION should be applied homogenously with short and circular touches to have a wavy texture.
- After 5-10 minutes pass with a clean effect brush over the application to remove the excessive paint and give the final texture.
- Clean the tools with water.
- Ensure that the air and surface temperatures are above +5º C during the application and 24 hours following the application.

**Risk Phrases**
R43 May cause sensitisation by skin contact.

**Safety Phrases**
S2 Keep out of the reach of children.
S7 Keep container tightly closed.
S24/25 Avoid contact with skin and eyes.
S37 Wear suitable gloves.
S46 If swallowed, seek medical advice immediately and show this container or label.
S61 Avoid release to the environment. Refer to special instructions/safety data sheets.

**Storage**
- Store between 5-35º C.

**Packaging**
- 1 kg., 2,5 kg. and 5 kg. pails.
- 1 kg. and 2,5 kg. packages packed together in 2s.

---

**Technical Properties**
(at 23°C and 50 % RH)

**General Data:**
- Colours: Colors in its color chart and tintable by Renk Ustası.
- Consumption: Depending on the evenness and the porosity of the surface approximately 0.3-0.5 kg/m²
- Composition: Acrylic emulsion based
- Density: Approx. 1.37 g/cm³
- Thinner: Water

**Application Data:**
- Application Temperature Range: (+5°C) - (+35°C)
- Drying Time: Tack-free time 1-2 hours and thoroughly dry after 4-6 hours. Lower temperatures and/or higher relative humidity will lenthen the drying process.
- Application Tools: Effect Brush
5319 İS7ANBUL Aura
Decorative Interior Paint with Velvet Pearl Effect

Description
Acrylic emulsion based decorative interior paint with velvet pearl effect.

Fields of Application
On interiors suitably prepared new mineral surfaces such as mortar, concrete, cement panel, gypsum panel etc, on old painted surfaces, glass textile, putty and wall paper to create a decorative effect and on wood and metal surfaces for hobby purposes.

Properties
— Forms elegant spaces with its velvet pearl effect.
— Creates different effects with the help of its pearl ingredient and special fillers.
— High water vapour permeability.
— Solvent free and practically odourless.
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitous substrates must be cured at least 28 days before application.
— If necessary, fill the surface cracks and even the substrate with Kale İNCE AKRİLİK MACUN or Kale MACUNART.
— To have a fine, smooth texture, smoothen the entire surface by using Kale İNCE AKRİLİK MACUN or Kale MACUNART.
— Prime new, old painted, very dirty surfaces with Kale SILASTAR.
— Apply İS7ANBUL AURA in one coat to whole surface using effect trowel.
— For giving the texture, after 2 hours apply İS7ANBUL AURA with circular movements until the desired pattern is obtained.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above +5º C during the application and 24 hours following the application.

Risk Phrases
R43 May cause sensitisation by skin contact.

Safety Phrases
S2 Keep out of the reach of children.
S7 Keep container tightly closed.
S24/25 Avoid contact with skin and eyes.
S37 Wear suitable gloves.
S46 If swallowed, seek medical advice immediately and show this container or label.
S61 Avoid release to the environment. Refer to special instructions/safety data sheets.

Storage
Store between 5-35º C.

Packaging
— 1 kg., 2,5 kg. and 5 kg. pails.
— 1 kg. and 2,5 kg. packages packed together in 2s.

Technical Properties
(at 23°C and 50 % RH)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Data:</td>
<td></td>
</tr>
<tr>
<td>Colours</td>
<td>Colors in its color chart and tintable by Renk Ustası.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness and the porosity of the surface approximately 0,2 - 0,3 kg./m²</td>
</tr>
<tr>
<td>Composition</td>
<td>Acrylic emulsion based</td>
</tr>
<tr>
<td>Density</td>
<td>Approx. 1,14 g/cm³</td>
</tr>
<tr>
<td>Thinner</td>
<td>Water</td>
</tr>
<tr>
<td>Application Data:</td>
<td></td>
</tr>
<tr>
<td>Application Temperature Range</td>
<td>(-5°C) - (+35°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Tack-free time 1-2 hours and thoroughly dry after 4-6 hours. Lower temperatures and/or higher relative humidity will lenthen the drying process.</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Effect Trowel</td>
</tr>
</tbody>
</table>
**5044 İS7ANBUL Antique**
Travertine Effect Decorative Coating

**Description**
Mineral based travertine effect decorative coating.

**Fields of Application**
On suitably prepared interior mineral surfaces such as concrete, mortar, cement panel, gypsum panel, etc. and old painted surfaces, putty and wallpaper in order to give travertine effect.

**Properties**
- Provides infinite number of patterns in addition to travertine effect.
- Creates differentiated places by providing alternative patterns.
- Gives rustic effect and gains water resistance when coated with İS7ANBUL ANTIQUE COAT.
- Very high water vapour permeability, allowing the building to breathe
- Solvent free and practically odourless.

**Application**
- The substrate must be cleaned from dust, dirt oil and old blistered coatings that may prevent good adhesion. The surface should be sound, clean and dry.
- If necessary, fill the surface cracks and even substrate with Kale MACUNART, Kale İNCE/KALIN AKRİLİK MACUN or Kalekim TAMİRART.
- The surface should be dampened before application or should be primed with Kale SATEN ALCİ ASTARI or Kale SILASTAR for a better result.
- 15 kg of İS7ANBUL ANTIQUE should be poured in 4,2-4,5 liters of clean water slowly, and mixed well until no lumps remain. Low speed mixer is recommended for mixing process.
- The mixture should be matured for 5-10 minutes, then mixed again before application.
- İS7ANBUL ANTIQUE should be applied on all over the surface at minimum 1 mm thickness with a steel trowel. Wait for 5-6 hours before applying second coat.
- For second coat application, İS7ANBUL ANTIQUE is applied on all over the surface and before it dries; a) Horizontal texture is given with spatula or steel trowel giving 30 degrees of angle with surface. Or, b) Texture is given by stroking on surface randomly with a rigid hair brush.
- Before surface dries, surface is smoothed by pressing hardly with a dry steel trowel.
- Whole surface should be primed with İS7ANBUL ANTIQUE COAT without thinning. It takes 12 hours for drying.
- In order to obtain rustic effect İS7ANBUL ANTIQUE COAT which is tinted by any 24 colors of RENK USTASI is applied with a roller on the fully dried surface and surplus is removed by using a wet sponge.
- Consume the prepared mortar within 3 hours. Dispose mortar of which pot life is expired.
- No other additives other than the ones stated here should be added in the mixture.
- Ensure that the air and surface temperature are above 10°C during and 24 hours following the application.
- Application should be done between 10 / +30°C.

**Risk Phrases**
R 41 Risk of serious damage to eyes.
R 43 May cause sensitisation by skin contact.

**Safety Phrases**
S2 Keep out of the reach of children.
S24 Avoid contact with skin.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37/39 Wear suitable gloves and eye/face protection.
S46 If swallowed, seek medical advice immediately and show this container or label.

**Storage**
- Stack multi-ply bags maximum 10 layers and store in dry conditions.

**Packaging**
- 5 kg and 15 kg multi-ply bags.

---

**Technical Properties**
(at 23°C and 50 % RH)

<table>
<thead>
<tr>
<th>General Data:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>White</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>12 months when stored in the original sealed packaging in dry place.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Temperature Range</td>
<td>(-10°C) - (+50°C)</td>
</tr>
<tr>
<td>Mixing Ratio</td>
<td>4,2-4,5 lt water/15 kg powder    1,4-1,5 lt water/5 kg powder</td>
</tr>
<tr>
<td>Pot Life</td>
<td>Approx. 3 hours</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Thoroughly dry after 24 hours</td>
</tr>
<tr>
<td>Waiting time between coats</td>
<td>5 - 6 hours</td>
</tr>
<tr>
<td>Lower temperatures and/or higher relative humidity will lengthen the drying process.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application Tools</th>
<th>Stainless steel trowel</th>
</tr>
</thead>
</table>

| Powder Consumption | Depending on the evenness and porosity of the surface, and the desired texture a total of 1,75 – 2,5 kg/m² in two coats |

<table>
<thead>
<tr>
<th>Performance Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bond Strength (EN 1015-11)</td>
<td>≥ 2.0 N/mm² (28 days)</td>
</tr>
<tr>
<td>Compressive Strength (EN 1015-11)</td>
<td>≥ 6.0 N/mm² (28 days) (CS IV)</td>
</tr>
<tr>
<td>Tensile Adhesion Strength (EN 1015-12)</td>
<td>≥ 0.8 N/mm² (28 days)</td>
</tr>
<tr>
<td>Water Absorption (EN 1015-18)</td>
<td>≤ 0.4 kg/m².min0,5 (W1)</td>
</tr>
<tr>
<td>Service Temperature Range</td>
<td>(-50°C) - (+80°C)</td>
</tr>
</tbody>
</table>
**Description**
Transparent, semi-matt, final coat primer specially designed as the final coat of travertin look mineral based decorative coating, İS7ANBUL ANTIQUE to give rustic effect.

**Fields of Application**
On totally cured İS7ANBUL ANTIQUE applied surfaces after tinting with RENK USTASI and also on absorbent mineral surfaces such as mortar, gypsum, gypsum panel, putty etc. to give rustic effect.

**Properties**
— Gives rustic effect when tinted with RENK USTASI.
— Increases water resistance of İS7ANBUL ANTIQUE and similar mineral based surfaces.
— Protects surfaces against scratches and water.
— High water vapour permeability.
— Solvent free and practically odorless; ecologically compatible

**Application**
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
— Before applications to be made on highly absorbent surfaces such as İS7ANBUL ANTIQUE, whole surface should be primed with İS7ANBUL ANTIQUE COAT without diluting or tinting. This will avoid lap marks especially on large areas.
— Once the surface is ready, İS7ANBUL ANTIQUE COAT is applied with a roller after tinted by any chosen color of RENK USTASI.
— Immediately after application, surplus is removed by using a wet sponge.
— İS7ANBUL ANTIQUE COAT is applied on totally cured İS7ANBUL ANTIQUE with sponge after tinted by any chosen color of RENK USTASI.
— İS7ANBUL ANTIQUE COAT is used without diluting. However, if surface is highly absorbent, it is recommended to add clean water up to maximum ½ by volume.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above +5º C during the application and 24 hours following the application.

**Risk Phrases**
R43 May cause sensitisation by skin contact.

**Safety Phrases**
S2 Çocukların ulaşabileceği yerlerden uzak tutunuz.
S24/25 Avoid contact with skin and eyes.
S28 After contact with skin, wash immediately with plenty of water.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S46 If swallowed, seek medical advice immediately and show this container or label.
S61 Avoid release to the environment. Refer to special instructions/safety data sheets.

**Storage**
— Store between 5 - 35º C in its unopened pail.

**Packaging**
— 1 lt and 3lt plastic pails.

---

**Technical Properties**

<table>
<thead>
<tr>
<th>Description</th>
<th>(at 23°C and 50 % RH)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Composition</strong></td>
<td>Acrylic emulsion based</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>Approx. 1,01 gr/cm³</td>
</tr>
<tr>
<td><strong>Application Temperature Range</strong></td>
<td>(+15°C - (+35°C)</td>
</tr>
<tr>
<td><strong>Drying Time</strong></td>
<td>Thoroughly dries in 24 hours</td>
</tr>
<tr>
<td><strong>Consumption</strong></td>
<td>Depending on the desired effect and porosity of the surface approximately 0,1 - 0,15 lt/m² per coat</td>
</tr>
<tr>
<td><strong>Application Tools</strong></td>
<td>Roller, sponge</td>
</tr>
<tr>
<td><strong>Water Vapour Permeability - SD (m)</strong></td>
<td>&lt; 0,140</td>
</tr>
</tbody>
</table>

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**Technical Information**

5324 İS7ANBUL Antique Coat
Rustic Effect Final Coat Primer

**Kale — Decorative Products**
5328 Artcrete / 5329 Artcrete Coat
Mineral Based Marble Effect Decorative Coating / Transparent Surface Protection Primer

**ARTCRETE**

**Description**
Mineral based marble look decorative coating enriched by chemical additives.

**Fields of Application**
On interior and exterior walls and on interior floors; on mineral surfaces such as concrete, mortar, cement panel, etc., on previously painted surfaces, and on Kale SATEN ALÇI ASTARI primed gypsum surfaces or gypsum boards. When surface is protected as described in Instructions for Use section, can be used in compelling areas such as bathrooms and kitchens.

**Properties**
- Having marble look natural effect, a perfect subsidiary for interior designs.
- Provides integrity in areas by allowing use both on walls and also on interior floors.
- Can be applied over existing coatings.
- Can be applied continuously.
- Along being mineral based, in non-rigid form.
- Gains strength in time.
- Being white in color, can be tinted by RENK USTASI.
- — Along being mineral based, in non-rigid form.
- — Gains strength in time.
- — Being white in color, can be tinted by RENK USTASI.
- High water vapour permeability allowing the building to breathe.
- — Long lasting when maintained properly as stated in Instructions for Use section.

**Instruction for Use**

**Surface Preparation:**
- The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitous substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
- Glossy and/or solvent based painted surfaces should be sanded to improve adhesion and the occurring powder should be removed.
- If necessary, the surface cracks should be filled and the substrate should be evened with Kalekim TAMIRART.

**Wall Application:**
- Dampen mineral surfaces before application or for a better result prime the surface with Kale SILASTAR.
- On ceramic tiles covered surfaces, apply first coat of ARTCRETE then place mesh and apply second coat before surface dries. Mesh must be between the two coats.
- ARTCRETE can be applied on concrete or old painted surfaces directly after necessary surface preparation is done.

**Floor Application:**
- Concrete floors must be evenly by MASTAR 10 before application.
- During application on ceramic tiles covered floors mesh should be used between first and second coats. Special care should be taken that mesh remains between the coats.

**Application**
- Pour 20 kg ARTCRETE in 6-7 liters of clean water slowly, mix well until no lumps remain.
- In order to obtain the desired color, ARTCRETE can be tinted by 24 different colors of RENK USTASI.
- Let the mixture mature for 1-3 minutes, then mix again before application.
- ARTCRETE is applied in 2 or 3 coats, with steel trowel. Waiting time between coats is 3-4 hours.
- Glossiness and texture can be obtained by pressing hardly on the final coat using trowel, or sandpapering the surface 1 day after the application.
- After 2-3 days when the surface thoroughly dries, depending on the purpose of use ARTCRETE COAT or İZOPUR TRANS must be applied on all over the surface.

**Warnings**
- In order to decrease absorption of surface and increase resistance against impacts, depending on the purpose of use, ARTCRETE COAT or İZOPUR TRANS should be applied periodically.
- Surfaces which are exposed to water frequently and surfaces which can be exposed to acids, alkali, detergents, sea water or oils must be covered with İZOPUR TRANS.
- ARTCRETE COAT applied surfaces should be cleaned with damp cloth or neutral cleaners.
--On totally cured ARTCRETE applied surfaces.
- Interior surfaces must not be exposed to heater or fan directly in order to decrease drying time.
- ARTCRETE must be applied at one time on connected surfaces.
- Joint gaps should be left while applying on large surfaces.
- Application must be done by educated applicators.
- Dispose mixture after 30 minutes.
- Clean tools and hands with water instantly after application.
- Do not inhale its dust and avoid contact with skin and eyes. For more information see MSDS.

**Storage**
- Stack maximum 10 layers and store in dry conditions. Avoid freezing and very hot conditions.

**Packaging**
- 20 kg multi-plly bags.

**ARTCRETE COAT**

**Description**
Opaque white colored, transparent, semi-matt surface protection primer specially designed as the final coat for mineral based decorative coating ARTCRETE.

**Fields of Application**
- On totally cured ARTCRETE applied surfaces.
- Compatible.
- Solvent free and practically odorless; ecologically compatible.

**Properties**
- Provides resistance against abrasion and scratches.
- Resistant against water; lengthens the life of ARTCRETE.
- Ready to use.
- Does not block water vapor permeability.
- Solvent free and practically odorless; ecologically compatible.

**Application**
- As a ready-to-use final coat primer, ARTCRETE COAT is applied in 2 coats on totally cured ARTCRETE with brush, roller or sponge.
- Clean the tools with water immediately.
- Ensure that the air and surface temperatures are above +5° C during the application and 24 hours following the application.

**Storage**
- Store between 5 - 35° C in its unopened bottle.

**Packaging**
- 1 lt plastic bottle.
5328 Artcrete

Technical Properties (at 23°C and 50 % RH)

<table>
<thead>
<tr>
<th>General Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>White. Can be tinted by Renk Ustası.</td>
</tr>
<tr>
<td>Composition</td>
<td>Cement based</td>
</tr>
<tr>
<td>Thinner</td>
<td>Water</td>
</tr>
<tr>
<td>Application Thickness</td>
<td>Total of 2 - 4 mm in 2 or 3 coats.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Temperature</td>
<td>(+5°C) - (+35°C)</td>
</tr>
<tr>
<td>Mixture Ratio</td>
<td>6-7 lt water/20 kg powder</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Sandpapered after 1 day, Thoroughly dry after 2 - 3 days</td>
</tr>
<tr>
<td>Powder Consumption</td>
<td>Depending on the evenness and porosity of the surface total of approx. 1,5 kg/m²</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Stainless steel trowel</td>
</tr>
<tr>
<td>Pot Life</td>
<td>Approx. 30 minutes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Temperature</td>
<td>(-30°C) - (+80°C)</td>
</tr>
<tr>
<td>Bond Strength - Type of Break (TS EN 1015-12)</td>
<td>Min. 1 N/mm² - FP: B after 1 day, Min. 1,25 N/mm² - FP: B after 7 days, Min. 1,50 N/mm² - FP: B after 28 days</td>
</tr>
<tr>
<td>Compressive Strength (TS EN 1015-11)</td>
<td>Min. 4 N/mm² after 1 day, Min. 9 N/mm² after 7 days, Min. 15 N/mm² - CS IV class after 28 days</td>
</tr>
<tr>
<td>Tensile Adhesion Strength (TS EN 1015-11)</td>
<td>Min. 1,5 N/mm² after 1 day, Min. 3 N/mm² after 7 days, Min. 5 N/mm² after 28 days</td>
</tr>
<tr>
<td>Bulk Density of Hardened Mortar (TS EN 1015-10)</td>
<td>1550 ± 100 kg/m³</td>
</tr>
<tr>
<td>Capillary Water Absorption (TS EN 1015-18)</td>
<td>≤ 0,20 kg/m²/dk⁰,₅ – W₂</td>
</tr>
<tr>
<td>Water Vapour Permeability (µ) (TS EN 1745)</td>
<td>5/20 (Table Value)</td>
</tr>
<tr>
<td>Thermal Conductivity (TS EN 1745)</td>
<td>≤ 0,42 W/m.K (Table Value) P = %50</td>
</tr>
<tr>
<td>Reaction to Fire (TS EN 13501-1)</td>
<td>Class B</td>
</tr>
<tr>
<td>Dangerous Substances (TS EN 998-1)</td>
<td>Complies. See Safety Data Sheet.</td>
</tr>
</tbody>
</table>

5329 Artcrete Coat

Technical Properties (at 23°C and 50 % RH)

<table>
<thead>
<tr>
<th>General Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition</td>
<td>Acrylic emulsion based</td>
</tr>
<tr>
<td>Colour</td>
<td>Off-white</td>
</tr>
<tr>
<td>Appearance after application</td>
<td>Transparent, Semi-matt</td>
</tr>
<tr>
<td>Density</td>
<td>Approx. 1,03 gr/cm³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+35°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Thoroughly dries and reaches rigidity in 7 days, Recoatable after 2 hours</td>
</tr>
<tr>
<td>Consumption</td>
<td>0,1 – 0,15 lt/m²</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Brush, roller, sponge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Taber Abrasion Resistance (TS 8103 EN ISO 5470-1) / (mg) (CS 10 wheel, 1000 gr weight, 1000 cycles)</td>
<td>Max 60 (Provides %65 more abrasion resistance compared to no Artcrete Coat applied surface)</td>
</tr>
</tbody>
</table>
5028 Glass Plaster
Ready Mixed Glass Chip Plaster

Description
Acrylic emulsion based ready-to-use plaster with glass particles for interior and exterior use which can be applied by a trowel.

Fields of Application
On exterior mineral surfaces such as concrete, gypsum, mortar, cement panel, etc., on previously painted surfaces and also on interior surfaces for decorative purposes.

Properties
— Decorative with its glittering appearance.
— Water resistant.
— High water vapor permeability, allowing the building to breathe.
— Alkali resistant.
— Long lasting; resists to UV rays, rain, heat and frost, thus retains its original properties for years without cracking, blistering and fading.
— Solvent free and practically odorless.
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitous substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
— Old synthetic-based surfaces should be thoroughly sanded and the sand dust should be removed off the surface.
— Plexiglass surfaces should be sanded thoroughly with thick sanding paper, roughened and cleansed off sanding dust.
— Prime the surface with Kale SILASTAR in the same color shade of the plaster.
— Mix GLASS PLASTER thoroughly before application until it is homogeneous.
— Spread GLASS PLASTER evenly on the surface in the same thickness as the glass particles by using a stainless steel trowel.
— Clean the tools with water after application.
— Ensure that the air and surface temperatures are above 5ºC and the surface is rain free during application and during the 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity, imminent rain or frost.
— Hot surfaces should be dampened before application.
— In order to avoid differences in shades of color; care should be taken to use products with the same charge number. In the event products with different charge numbers are to be used, the entire required amount should be mixed prior to application.

Ceiling Application Suggestions
— Compatibility of the GLASS PLASTER with the panel selected and the conformity of the panel with the adhesive should be tested in advance.
— Decorative ceilings can be created by adhesive bonding / mechanical mounting methods on previously-tested lowered ceiling panels such as XPS, EPS. The performance of GLASS PLASTER application after the priming of the XPS panels with a primer of suitable color (Kale SILASTAR) and adhesive bonding of these panels to the ceiling with Kalekim TECHNOMAX 30 are suggested, as advised in the model application.

Safety Advices
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Technical Properties
(at 23°C and 50% RH)

General Data
Colors
Available in 27 original colors
Texture
Contains glass chips
Composition
Acrylic emulsion based
Thinner
Water

Application Data
Application Temperature Range
(+5°C) - (+35°C)
Drying Time
Surface dry after 24 hours and thoroughly dry after 2-3 days. Lower temperatures and/or higher relative humidity will lengthen the drying process.
Consumption
Depending on the evenness of the surface approximately 4,0-5,0 kg/m²
Application Tools
Stainless steel trowel

Performance Data
Water Vapour Permeability
SD (m) (TS EN ISO 7783-2) Approx. 0,150
Water Absorption
(kg/m² h0,5) (TS EN 1062-3) 0,100 - 0,500
Peeling Strength
(KgF) (AFNOR T 30708) ≥ 2,5
Service Temperature
(-30°C) - (+60°C)

Environmentally Friendly
Glass Plaster Colors

Please check Glass Plaster Collection Color Card for more colors.

NOTICE! Due to printing techniques, there may be differences between color tones shown here and emerged after application.
Kale — Decorative Products

5041 Betonart
Ready Mixed Plaster with Concrete Effect

Description
Acrylic emulsion based, trowel applied, colored, ready mixed decorative interior and exterior plaster with concrete look.

Fields Of Application
On interiors, suitably prepared new mineral surfaces such as concrete, mortar, cement panel, gypsum panel etc. and on old painted surfaces, putty, glass textile and on wallpaper.

Properties
— Gives concrete effect
— High water vapour permeability, allowing building to breathe.
— Resistant against alkali and water.
— Long lasting.
— Solvent free and practically odourless.
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitous substrates must be cured at least 28 days before application.
— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
— If necessary, fill the surface cracks and even the substrate with Kale MACUNART, Kale İNCE AKRİLİK MACUN or Kalekim TAMİRART.
— Prime the surfaces with Kale SILASTAR in two coats in suitable color.
— BETONART should be mixed thoroughly. If necessary, BETONART can be thinned by clean water until its viscosity is suitable for application.
— BETONART should be applied homogeneously on surface with trowel after primer is dried.
— Different textures can be given by use of trowel and second coat application can be made.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5°C and the surface is rain free during application and 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity, imminent rain or frost.
— Dampen hot surfaces before application.
— In order to avoid differences in shades of color; care should be taken to use products with the same batch number. If products with different batch numbers are to be used, the entire amount should be mixed prior to application.
— In order to avoid overlapping in large areas or after work pauses, masking tape should be used or adequate number of applicators should be employed to apply the plaster wet-on-wet without interruptions.

Risk & Safety Phrases
— R 43 May cause sensitization by skin contact.
— S 2 Keep out of the reach of children.
— S 7 Keep container tightly closed.
— S 24/25 Avoid contact with skin and eyes.
— S 37 Wear suitable gloves.
— S 46 If swallowed, seek medical advice.
— S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

Storage
— Store between 5°C - 35°C in its unopened pail.

Packaging
— Available in 25 kg pails.

Technical Properties (at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data</th>
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</thead>
<tbody>
<tr>
<td>Colors</td>
</tr>
<tr>
<td>Texture</td>
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<tr>
<td>Composition</td>
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<tr>
<td>Thinner</td>
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<table>
<thead>
<tr>
<th>Application Data</th>
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<tbody>
<tr>
<td>Application Temperature Range</td>
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<tr>
<td>Drying Time</td>
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<tr>
<td></td>
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<tr>
<td>Consumption</td>
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<tr>
<td>Application Tools</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Vapour Permeability - SD (m) (TS EN ISO 7783 - 2)</td>
</tr>
<tr>
<td>Water Absorption (kg/m² h½) (TS EN 1062-3)</td>
</tr>
<tr>
<td>Peeling Strength (Kgf) (AFNOR T 30706)</td>
</tr>
<tr>
<td>Service Temperature</td>
</tr>
</tbody>
</table>

Certificates of Quality: TS 7847
Description
Acrylic emulsion based, light, trowel applied, concrete effect interior decorative ready mixed plaster balancing humidity level and absorbing bad odor caused by smoke, fried food, etc., and harmful gases.

Fields of Application
On interior mineral surfaces such as concrete, mortar, cement panel, etc., on previously painted surfaces.

Properties
— Absorbs bad odor and balances humidity in interiors by the help of its special formula.
— Being a topcoat decorative finish, gives concrete effect.
— High water vapour permeability allowing the building to breathe.
— Alkal resistant.
— Solvent free and practically odorless.
— Long lasting.
— In two stock colors of B183 and B185.
— Tintable by Renk Ustası.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove occurring powder.
— If necessary, fill the surface cracks on the trowel with Kale MACUNART, Kale İNCE AKRİLİK MACUN or Kalekim TAMİRART.
— Prime the surfaces with Kale SILASTAR in two coats in suitable color.
— BETONART FRESH should be mixed thoroughly. If necessary, BETONART FRESH can be thinned by clean water until its viscosity is suitable for application.
— BETONART FRESH should be applied homogeneously on surface with steel trowel.
— Different textures can be given by use of trowel and second coat application can be made. Texture should be given by using plastic trowel.
— Clean the tools with water.
— Ensure that the surface temperature is above +5º C.
— Hot surfaces should be dampened before application.
— In order to avoid differences in shades of color, products with the same charge number should be used. In the event products with different charge numbers are to be used, the entire required amount should be mixed prior to application.
— In order to avoid overlapping in large areas or after work pauses, masking tape should be used or an adequate number of applicators should be employed to apply the plaster wet-on-wet without interruptions.
— Not suitable for application on surfaces which are exposed to water and high humidity for long time and continuously.

Risk Phrases
R43 May cause sensitisation by skin contact.

Safety Phrases
S2 Keep out of the reach of children.
S7 Keep container tightly closed.
S24/25 Avoid contact with skin and eyes.
S37 Wear suitable gloves.
S46 If swallowed, seek medical advice immediately and show this container or label.
S61 Avoid release to the environment. Refer to special instructions/safety data sheets.

Storage
— Store between 5 - 35º C.

Packaging
— Available in 20 kg pails.

Complies with: TS EN 15824
**Kale — Decorative Products**

**5230 Vitray Lak**
Multicolor Interior Coating System

**Description**
Emulsion based, interior wall paint used as the top coat of Vitray, Multicolor Interior Coating System.

**Fields Of Application**
Following the application of Vitray Pul and Fon on Vitray - Multicolor Interior Coating System - and also on all kinds of porous, highly absorbent surfaces such as concrete, mortar, gypsum, gypsum panel, putty, etc.

**Properties**
— Easy to clean,
— Ready to use,
— When used as primer; reinforces the substrates and decreases the absorbency of the substrate.

**Application**
— After brushing the loosely stuck flakes away, Vitray Lak should be applied, on Vitray Fon and Vitray Pul applied surfaces.
— Vitray Lak should be applied, without thinning in 1 coat using a brush, roller or spray system.
— To have a matt surface, Vitray Lak should be thinned with clean water at 1/1 ratio by volume.

**Drying Time (23°C and 50% RH)**
— Thoroughly dry after 24 hours. Lower temperature and higher relative humidity will lengthen the drying process.

**Safety Advices**
— S 2 Keep out of the reach of children.
— S 24/25 Avoid contact with skin and eyes.
— S 46 If swallowed, seek medical advice.

**Storage**
— Store between 5°C-35°C in its unopened pail.

**Packaging**
— 2,5 lt and 15 lt pails.
— 2,5 lt packages packed together in 2s.

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**Technical Properties**
(at 23°C and 50% RH)

<table>
<thead>
<tr>
<th><strong>General Data</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition</td>
<td>Acrylic emulsion based</td>
</tr>
<tr>
<td>Thinner</td>
<td>Water</td>
</tr>
<tr>
<td>Density</td>
<td>Approx 1,05 g/cm³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Application Data</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+35°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Thoroughly dry after 24 hours. Lower temperatures and/or higher relative humidity will lengthen the drying process.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness and the porosity of the surface approximately 0,100 – 0,150 kg/m²</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Brush, Roller, Airless spraying equipment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Performance Data</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Vapour Permeability</td>
<td>&lt; 0,170</td>
</tr>
</tbody>
</table>
**Kale — Decorative Products**

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**5210 Vitray Fon**

Multicolor Interior Coating System

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**Description**

Emulsion based, interior wall paint used as the undercoat of Vitray, Multicolor Interior Coating System.

**Fields Of Application**

On interiors, suitably prepared new mineral surfaces such as concrete, mortar, cement panel, gypsum panel, metal surfaces primed with an anticorrosion primer etc. and on old painted surfaces.

**Properties**

— Has long open time; allows 15-20 minutes for application  
— High alkali resistance  
— Applicable to almost all kinds of surfaces  
— High scrub resistance, easy to clean.  
— Available in 5 pastel colors: pink, blue, green, grey and white.

**Application**

— The substrate must be sound, dry, clean and free from all materials that may prevent good adhesion.  
— If necessary, the substrate should be sanded and the cracks should be filled with Kale İNCE AKRİLİK MACUN or Kale MACUNART.  
— To have a fine finish, surface should be smoothened by using Kale İNCE AKRİLİK MACUN or Kale MACUNART.  
— Prime the solvent based painted surfaces or water based painted surfaces on which color change is desired and old painted water based and very dirty surfaces with Kale SATEN ALÇI ASTARI or Kale SILASTAR.  
— Porous surfaces should be primed with VİTRAY LAK without thinning.  
— Decorative flakes should be applied without thinning in one coat in homogeneous thicknesses using a brush, roller or spray system.  
— Decorative flakes should be applied within 15-20 minutes as open time of VİTRAY FON is 15-20 minutes.  
— Clean the tools with water.  
— Ensure that the air and surface temperatures are above 5°C during the application and 24 hours following the application.

**Safety Advices**

— S 2 Keep out of the reach of children.  
— S 24/25 Avoid contact with skin and eyes.  
— S 46 If swallowed, seek medical advice.

**Storage**

— Store between 5°C-35°C in its unopened pail

**Packaging**

— 2,5 lt and 15 lt pails.  
— 2,5 lt packages packed together in 2s.

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**Technical Properties**

(at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition</td>
<td>Emulsion based</td>
</tr>
<tr>
<td>Thinner</td>
<td>Water</td>
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<tr>
<td>Density</td>
<td>Approx 1,35 g/cm³</td>
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<table>
<thead>
<tr>
<th>Application Data</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+35°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Thoroughly dry after 24 hours. Lower temperatures and/or higher relative humidity will lengthen the drying process.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness and the porosity of the surface approximately 0,160-0,250 kg/m²</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Brush, Roller, Airless spraying equipment</td>
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<thead>
<tr>
<th>Performance Data</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Water Vapour Permeability</td>
<td>&lt; 0,200</td>
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</table>
5111 Protekta
Ceramic Micro Spheres and Silicone Enhanced, Mildew and Algae Resistant, Water Based, Exterior Wall Paint

Description
Ceramic micro spheres and silicone enhanced, mildew and algae resistant, water impermeable, acrylic emulsion based, long lasting, matt, exterior wall paint.

Fields of Application
On exterior mineral surfaces such as concrete, mortar, cement panel, etc. and on previously painted surfaces.

Properties
— Contributes to heat insulation with its ceramic micro spheres.
— Water repellent; provides rain to slide away without wetting the wall.
— Resistant against mildew and algae growth on walls.
— Superior hiding power
— High water vapour permeability, allowing the building to breathe.
— Long lasting, resists to UV rays, rain, heat and frost, thus retains its original properties for years without cracking, blistering and fading.
— Alkali resistant.
— Water thinnable and ecologically compatible.
— Solvent free and practically odourless.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
— If necessary, fill the surface cracks and even the substrate with Kale KALIN AKRİLİK MACUN, Kale MACUNART or Kalekim TAMİRART.
— Prime new mineral and old painted surfaces with Kale ÜNİASTAR or SİLASTAR.
— After thoroughly mixing, thin PROTEKTA with clean water up to a maximum of 10% by volume and apply in two coats by using a brush, roller or spray system.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5°C and the surface is rain free during application and 24 hours following the application.

Safety Advices
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened pail.

Packaging
— 2,5 lt, 7,5 lt and 15 lt pails.
— 2,5 lt packages packed together in 2s.

Technical Properties (at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data</th>
<th>Classification</th>
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<tbody>
<tr>
<td>Colors</td>
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</tr>
<tr>
<td>Composition</td>
<td></td>
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<tr>
<td>Thinner</td>
<td></td>
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<tr>
<td>Density</td>
<td></td>
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<tr>
<td>Application Data</td>
<td></td>
</tr>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+35°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Lower temperatures and/or higher relative humidity will lengthen the drying process.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness and the porosity of the surface approximately 0,150 lt/m2 per coat</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Brush, Roller, Airless spraying equipment</td>
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Performance Data

<table>
<thead>
<tr>
<th>Water Vapour Permeability</th>
<th>TS EN 1062-1 Classifications</th>
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<tbody>
<tr>
<td>SD (m) (TS EN ISO 7783 - 2)</td>
<td>Approx. 0.150</td>
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<tr>
<td>Liquid Water Permeability</td>
<td>Class W3</td>
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<table>
<thead>
<tr>
<th>Scrub Resistance (cycle) (ASTM 2486)</th>
<th>&gt; 300</th>
</tr>
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<tr>
<td>Crack Bridging (class A0)</td>
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<table>
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<tr>
<th>Gloss (60°) (ISO 2813)</th>
<th>Approx. 3</th>
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<tr>
<td>CO2 Permeability (class C0)</td>
<td></td>
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<tr>
<td>Fungi and Algae Resistance</td>
<td>Class K1</td>
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<table>
<thead>
<tr>
<th>Water Absorption (kg/m²/h)</th>
<th>&lt; 0,100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Temperature</td>
<td>(-30°C) - (+60°C)</td>
</tr>
</tbody>
</table>

Certificates of Quality: TS 7847

Environmentally Friendly
Description
Elastic acrylic emulsion based, extra elastic, long lasting, water impermeable, exterior matt wall paint.

Fields of Application
On exterior mineral surfaces such as concrete, mortar, cement panel, etc., on previously painted surfaces.

Properties
— Extra elastic; covers the hair cracks on the surface and resists to movements of the building and keeps its elasticity in low temperatures.
— Waterproof; gives perfect protection against rain therefore prevents salt crystallization, frost cracks, algae and fungus formation, chemical corrosion.
— Long lasting; resists to UV rays, rain, heat and frost, thus retains its original properties for years without cracking, blistering and fading.
— High water vapour permeability, allowing buildings to breathe.
— Superior hiding power.
— Solvent free and practically odourless.
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
— If necessary, fill the surface cracks and even the substrate with Kale KALIN AKRİLİK MACUN, Kale MACUNART or Kalekim TAMİRART.
— Prime new mineral and old painted surfaces with Kale ÜNİASTAR or SİLASTAR.
— After thoroughly mixing, thin PERFORMA+ with clean water up to a maximum of 10% by volume and apply in two coats by using a brush, roller or spray system.
— Wait for a minimum of 6 hours before applying the final coat.
— Clean the tools with water.

Safety Advices
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened pail.

Packaging
— 2,5 lt and 15 lt pails.
— 2,5 lt packages packed together in 2s.

TS EN 1062-1 Classification
Gloss
Class G3
Film Thickness
Class E2
Grain Size
Class S1
Water Vapour Transmission
Class V2
Liquid Water Permeability
Class W3
Crack Bridging
Class A2
CO₂ Permeability
Class C0

Technical Properties
(at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
<td>Thousands of colors possible from a mixture of white and A, B, C bases using the Renk Bankas and the Renk Ustasu.</td>
</tr>
<tr>
<td>Composition</td>
<td>Elastic acrylic emulsion based</td>
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<tr>
<td>Thinner</td>
<td>Water</td>
</tr>
<tr>
<td>Density</td>
<td>Approx. 1,39 g/cm³</td>
</tr>
<tr>
<td>Application Temperature Range</td>
<td></td>
</tr>
<tr>
<td>Drying Time</td>
<td>Recomtable after 6 hours and thoroughly dry after 24 hours.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness and the porosity of the surface approximately 0,130 lt/m² per coat.</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Brush, roller, airless spraying equipment</td>
</tr>
<tr>
<td>Performance Data</td>
<td></td>
</tr>
<tr>
<td>Water Vapour Permeability</td>
<td>Approx. 0,300</td>
</tr>
<tr>
<td>Scrub Resistance (cycle)</td>
<td>&gt; 300</td>
</tr>
<tr>
<td>Gloss (60°)</td>
<td>Approx. 4</td>
</tr>
<tr>
<td>Water Absorption (kg/m² h²)</td>
<td>&lt; 0,100</td>
</tr>
<tr>
<td>Service Temperature</td>
<td>(-30°C) - (+80°C)</td>
</tr>
</tbody>
</table>

Certificates of Quality: TS 7847
5105 Performa

Elastic Water Based Exterior Wall Paint

Description
Elastic acrylic emulsion based, elastic, water impermeable, matt, exterior wall paint.

Fields of Application
On suitably prepared exterior mineral surfaces such as concrete, mortar, cement panel, etc. and on previously painted surfaces.

Properties
— Forms an elastic film; covers the hairy cracks on the surface and resists to movements of the building.
— Waterproof; gives perfect protection against rain therefore prevents salt crystallization, frost cracks, algae and fungus formation, chemical corrosion.
— Can be applied with or without texture.
— Long lasting; resists to UV rays, rain, heat and frost, thus retains its original properties for years without cracking, blistering and fading.
— High water vapour permeability, allowing buildings to breathe.
— Superior hiding power.
— Solvent free and practically odourless.
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
— If necessary, the surface cracks should be filled and the substrate should be evened with Kale KALIN AKRİLİK MACUN, Kale MACUNART or Kalekim TAMİRART.
— Prime new mineral and old painted surfaces with Kale ÜNİASTAR or SİLASTAR.
— After thoroughly mixing, thin PERFORMA with clean water up to a maximum of 10% by volume and apply in two coats by using a brush, roller or spray system.
— On highly porous surfaces or when extra insulation, durability and texture is desired apply 3rd coat of PERFORMA without thinning.
— Wait for a minimum of 6 hours between coats.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5°C and the surface is rain free during application and 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity, imminent rain or frost.
— Dampen hot surfaces before application.
— Not suitable for application on horizontal surfaces exposed to rain or moisture.

Safety Advices
— S 2 Keep out of the reach of children.
— S 24/25 Avoid contact with skin and eyes.
— S 46 If swallowed, seek medical advice.

Technical Properties (at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
<td>Thousands of colors possible from a mixture of white and A, B, C, bases using the Renk Bankası and the Renk Ustası.</td>
</tr>
<tr>
<td>Composition</td>
<td>Elastic acrylic emulsion based</td>
</tr>
<tr>
<td>Thinner</td>
<td>Water</td>
</tr>
<tr>
<td>Density</td>
<td>Approx 1.41 g/cm³</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Lower temperatures and/or higher relative humidity will lengthen the drying process.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness and the porosity of the surface approximately 0.200-0.500 l/m² per coat.</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Brush, Roller, Airless spraying equipment</td>
</tr>
<tr>
<td>Water Vapour Permeability SD (m)</td>
<td>Approx. 0.300</td>
</tr>
<tr>
<td>Scrub Resistance (cycle) (ASTM 2486)</td>
<td>&gt; 300</td>
</tr>
<tr>
<td>Gloss (60°) (ISO 2813)</td>
<td>Approx. 4</td>
</tr>
<tr>
<td>Water Absorption (kg/m²h½)</td>
<td>&lt; 0.100</td>
</tr>
<tr>
<td>Service Temperature</td>
<td>(-30°C) - (+60°C)</td>
</tr>
</tbody>
</table>

Complies with: TS 7847
5122 Joker Plus EXT
Silicone Enhanced, Water Based Exterior Wall Paint

Description
Acrylic emulsion based, silicone enhanced, water repellent, long lasting exterior wall paint.

Fields of Application
On exterior mineral surfaces such as concrete, mortar, cement panel and on previously painted surfaces

Properties
— Water repellent, provides rain to slide away without wetting the wall.
— High water vapour permeability, allowing building to breathe.
— Long lasting, resists to UV rays, rain, heat and frost, thus retains its original properties without cracking, blistering or fading.
— Alkali resistant.
— Superior hiding power.
— Solvent free and practically odorless
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitous substrates must be cured at least 28 days before application.
— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
— If necessary, fill the surface cracks and even the substrate with Kale KALIN AKRİLİK MACUN, Kale MACUNART or Kalekim TAMİRART.
— Prime new mineral and old painted surfaces with Kale ÜNİASTAR or SİLASTAR.
— After thoroughly mixing thin JOKER PLUS EXT with clean water up to a maximum of 10% by volume and apply in two coats by using a brush, roller or spray system.
— Wait for a minimum of 6 hours before applying the new coat
— Clean the application tools with water.
— Ensure that the air and surface temperatures are above 5°C and the surface is rain free during the application and 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity and imminent rain or frost. Dampen the hot surfaces before the application.
— All water insulation precautions should have been taken prior to application.
— Not suitable for application on horizontal surfaces exposed to rain or moisture.

Safety Advices
— S2 Keep out of the reach of children
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35° C in its unopened pail.

Packaging
— 2,5 lt, 7,5 lt and 15 lt pails
— 2,5 lt packages packed together in 2s.

Technical Properties
(at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data</th>
<th>TS EN 1062-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
<td>Film Thickness</td>
</tr>
<tr>
<td>Composition</td>
<td>Grain Size</td>
</tr>
<tr>
<td>Thinner</td>
<td>Water Vapour Transmission</td>
</tr>
<tr>
<td>Density</td>
<td>Liquid Water Permeability</td>
</tr>
<tr>
<td>Application Data</td>
<td>Crack Bridging</td>
</tr>
<tr>
<td>Drying Time</td>
<td>CO2 Permeability</td>
</tr>
<tr>
<td>Consumption</td>
<td>Class G3</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Class E3</td>
</tr>
<tr>
<td>Performance Data</td>
<td>Class S1</td>
</tr>
<tr>
<td>Water Vapour Permeability</td>
<td>Class W3</td>
</tr>
<tr>
<td>SD (m) (TS EN ISO 7763 - 2)</td>
<td>Class A0</td>
</tr>
<tr>
<td>Scrub Resistance (cycle) (ASTM 2486)</td>
<td>Class C0</td>
</tr>
<tr>
<td>Gloss (60°) (ISO 2813)</td>
<td></td>
</tr>
<tr>
<td>Water Absorption (kg/m² h°C) (TS EN 1062 - 3)</td>
<td></td>
</tr>
<tr>
<td>Service Temperature</td>
<td>-30°C - +80°C</td>
</tr>
</tbody>
</table>
5115 Silikona
Silicone Enhanced, Water Based Exterior Wall Paint

Description
Acrylic emulsion based, water impermeable, long lasting, silicone enhanced exterior wall paint.

Fields of Application
On exterior mineral surfaces such as concrete, mortar, cement panel, etc. and on previously painted surfaces.

Properties
- Water repellent; provides rain to slide away without wetting the wall.
- High water vapour permeability, allowing the building to breathe.
- Long lasting; resists to UV rays, rain, heat and frost, thus retains its original properties without cracking, blistering or fading.
- Alkali resistant.
- Superior hiding power.
- Solvent free and practically odourless.
- Water thinnable and ecologically compatible.

Application
- The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitous substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
- Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
- If necessary, fill the surface cracks and even the substrate with Kale KALIN AKRİLİK MACUN, Kale MACUNART or Kalekim TAMİRART.
- Prime new mineral and old painted surfaces with Kale ÜNİASTAR or SİLASTAR.
- After thoroughly mixing, thin SİLİKONA with clean water up to a maximum of 10% by volume and apply in two coats by using a brush, roller or spray system.
- Wait for a minimum of 6 hours before applying the final coat.

Safety Advices
- S2 Keep out of the reach of children.
- S24/25 Avoid contact with skin and eyes.
- S46 If swallowed, seek medical advice.

Storage
- Store between 5°C-35°C in its unopened pail.

Packaging
- 2.5 lt, 7.5 lt and 15 lt pails.
- 2.5 lt packages packed together in 2s.

Technical Properties (at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data</th>
<th>TS EN 1062-1 Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
<td></td>
</tr>
<tr>
<td>Thousands of colors possible from a mixture of white and A, B, C bases using the Renk Bankası and the Renk Ustası.</td>
<td></td>
</tr>
<tr>
<td>Composition</td>
<td></td>
</tr>
<tr>
<td>Acrylic emulsion based</td>
<td></td>
</tr>
<tr>
<td>Thinner</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td></td>
</tr>
<tr>
<td>Approx. 1,57 g/cm³</td>
<td></td>
</tr>
</tbody>
</table>

| Application Data             |                             |
| Application Temperature Range |                             |
| (+5°C) - (+35°C)             |                             |
| Drying Time                  | Recatocat after 6 hours and thoroughly dry after 24 hours. |

| Consumption                  |                             |
| Depending on the evenness and the porosity of the surface approximately 0.130 lt/m² per coat |                             |
| Application Tools            | Brush, roller, airless spraying equipment |

| Performance Data             |                             |
| Water Vapour Permeability    | Approx. 0.150               |
| SD (m) (TS EN ISO 7783 - 2)  |                             |
| Scrub Resistance (cycle) (ASTM 2486) | > 300                     |
| Gloss (60°) (ISO 2813)       | Approx. 3                   |
| Water Absorption             | < 0.100                    |
| (kg/m²/h/0.5) (TS EN 1062 - 3) |                             |
| Service Temperature          | (-30°C) - (+60°C)           |

Certificates of Quality: TS 7847
5118 Silikona Grenli
Silicone Enhanced, Water Based Textured Coating

Description
Acrylic emulsion based, silicone enhanced, water repellent, exterior and interior textured wall coating capable of covering the surface defects with its thickness and texture.

Fields of Application
On exterior mineral surfaces such as concrete, mortar, cement panel, etc, on previously painted surfaces and also on interior surfaces for decorative purposes.

Properties
— Water repellent; provides rain to slide away without wetting the wall
— Long lasting; resists to UV rays, rain, heat and frost, thus retains its original properties for years without cracking, blistering and fading. 
— High water vapour permeability, allowing the building to breathe.
— Alkali resistant.
— Covers the surface defects by its thickness and texture.
— Superior hiding power.
— Solvent free and practically odourless,
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application. 
— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
— If necessary, fill the surface cracks and even the substrate with Kale KALIN AKRİLİK MACUN, Kale MACUNART or Kalekim TAMİR ART.
— Prime new mineral and old painted surfaces with Kale ÜNİASTAR or SİLASTAR with the appropriate color shade of the plaster.
— After thoroughly mixing, apply SILIKONA GRENLI in a single coat without thinning or in 2 coats by thinning with clean water up to a maximum of 10% by volume using a roller or spray system.
— Wait for a minimum of 6 hours before applying the final coat.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5°C and the surface is rain free during application and 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity and imminent rain or frost.
— Dampen the hot surfaces before the application.
— Not suitable for application on horizontal surfaces exposed to rain or moisture.
— In order to avoid color shade differences, use the products with the same batch number. In case that products with different batch numbers are to be used, mix the entire necessary amount prior to application.
— In order to avoid overlapping in large areas, after work pauses, use a masking tape or employ an adequate number of applicators.

Safety Advices
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened pail.

Technical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Data</td>
<td></td>
</tr>
<tr>
<td>Colors</td>
<td>Thousands of colors possible from a mixture of white and A, B, C bases using the Renk Bankası and the Renk Ustası.</td>
</tr>
<tr>
<td>Composition</td>
<td>Acrylic emulsion based</td>
</tr>
<tr>
<td>Thinner</td>
<td>Water</td>
</tr>
<tr>
<td>Texture</td>
<td>Roller textured</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness, the porosity of the surface and the desired texture approx. 1.65 g/cm².</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Brush, roller, airless spraying equipment</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Recurable after 6 hours and thoroughly dry after 24 hours.</td>
</tr>
<tr>
<td>Service Temperature</td>
<td>(-30°C) - (+80°C)</td>
</tr>
<tr>
<td>Water Vapour Permeability</td>
<td>Approx. 0.3 mm²/m²/h/Pa</td>
</tr>
<tr>
<td>Peeling Strength</td>
<td>&gt; 2.5 kgf/cm²</td>
</tr>
<tr>
<td>Water Absorption</td>
<td>&lt; 0.10 kg/m²/h/100 Pa</td>
</tr>
</tbody>
</table>

Certificates of Quality: TS 7847

Kale ——— Exterior Paint and Coatings

47
**5120 Silikonatex**

Silicone Enhanced, Elastic, Water Based Textured Coating

**Description**

Acrylic emulsion based, water repellent, elastic, non-cracking, silicone enhanced, covering the surface defects with its texture and thickness, long lasting, exterior and interior textured coating.

**Fields of Application**

On exterior mineral surfaces such as concrete, mortar, cement panel, etc, on previously painted surfaces and also on interior surfaces for decorative purposes.

**Properties**

- Elastic; covers hair cracks on the surface and resists to movements of the building and keeps its elasticity in low temperatures.
- Water repellent; provides rain to slide away without wetting the wall.
- High water vapour permeability, allowing the building to breathe.
- Long lasting; resists to UV rays, rain, heat and frost, thus retains its original properties for years without cracking, blistering and fading.
- Covers the surface defects with its texture and thickness.
- Alkali resistant.
- Superior hiding power.
- Solvent free and practically odourless.
- Water thinnable and ecologically compatible.

**Application**

- The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
- Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
- If necessary, fill the surface cracks and even the substrate with Kale KALIN AKRİLİK MACUN, Kale MACUNART or Kalekim TAMİRART.
- Prime new mineral and old painted surfaces with Kale ÜNİASTAR or SİLASTAR with the appropriate color shade of the plaster.
- After thoroughly mixing, apply SİLİKONATEX in a single coat without thinning or in 2 coats by thinning with clean water up to a maximum of 10% by volume using a roller or spray system.
- Wait for a minimum of 6 hours before applying the final coat.
- Clean the tools with water.

**Safety Advices**

- S2 Keep out of the reach of children.
- S24/25 Avoid contact with skin and eyes.
- S46 If swallowed, seek medical advice.

**Storage**

- Store between 5°C-35°C in its unopened pail.

**Packaging**

- 2,5 lt and 15 lt pails
- 2,5 lt packages packed together in 2s.

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**Technical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
<td>Thousands of colors possible from a mixture of white and A, B, C bases using the Renk Bankası and the Renk Ustası</td>
</tr>
<tr>
<td>Composition</td>
<td>Acrylic emulsion based</td>
</tr>
<tr>
<td>Thinner</td>
<td>Water</td>
</tr>
<tr>
<td>Texture</td>
<td>Roller textured</td>
</tr>
<tr>
<td>Densitly</td>
<td>Approx. 1.63 g/cm³</td>
</tr>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+35°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Recomtable after 6 hours and thoroughly dry after 24 hours. Lower temperatures and/or higher relative humidity will lengthen the drying process.</td>
</tr>
<tr>
<td>Consumption</td>
<td>0.400 - 0.660 l/m² (700 - 1000 g/m²)</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Roller, airless spraying equipment</td>
</tr>
<tr>
<td>Water Vapour Permeability</td>
<td>Approx. 0.300</td>
</tr>
<tr>
<td>Peeling Strength (Kgf)</td>
<td>&gt; 2.5</td>
</tr>
<tr>
<td>Water Absorption (kg/m²/h)</td>
<td>&lt; 0.100</td>
</tr>
<tr>
<td>Service Temperature</td>
<td>(-30°C) - (+60°C)</td>
</tr>
</tbody>
</table>

**TS EN 1062-1 Classification**

- Film Thickness: Class E4
- Grain Size: Class S3
- Water Vapour Transmission: Class V2
- Liquid Water Permeability: Class W3
- Crack Bridging: Class A0
- CO₂ Permeability: Class C0

**Certificates of Quality:** TS 7847
### Description
Acrylic emulsion based, long lasting, matt, exterior wall paint.

### Fields of Application
On exterior mineral surfaces such as concrete, mortar, cement panel, etc. and on previously painted surfaces.

### Properties
— Long lasting; resists to UV rays, rain, heat and frost, thus retains its original properties for years without cracking, blistering and fading.
— High water vapour permeability, allowing building to breathe.
— Alkali resistant.
— Water resistant.
— Superior hiding power.
— Solvent free and practically odourless.
— Water thinnable and ecologically compatible.

### Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
— If necessary, fill the surface cracks and even the substrate with Kale KALIN AKRİLİK MACUN, Kale MACUNART or Kalekim TAMİRART.
— Prime new mineral and old painted surfaces with Kale ÜNİASTAR or SILASTAR.
— After thoroughly mixing, thin GRENA with clean water up to a maximum of 10% by volume and apply in two coats by using a brush, roller or spray system.
— Wait for a minimum of 6 hours before applying the final coat.

### Safety Advices
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

### Storage
— Store between 5°C-35°C in its unopened pail.

### Packaging
— 2,5 lt, 7,5 lt and 15 lt pails
— 2,5 lt packages packed together in 2s.

### Technical Properties
(at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
<td>Thousands of colors possible from a mixture of white and A, B, C bases using the Renk Bankası and the Renk Ustası.</td>
</tr>
<tr>
<td>Composition</td>
<td>Acrylic emulsion based</td>
</tr>
<tr>
<td>Thinner</td>
<td>Water</td>
</tr>
<tr>
<td>Density</td>
<td>Approx. 1,46 g/cm³</td>
</tr>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+35°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Recoatable after 6 hours and thoroughly dry after 24 hours. Lower temperatures and/or higher relative humidity will lengthen the drying process. Depending on the evenness and the porosity of the surface approximately 0,130 lt/m² per coat.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evaporation rate of the surface approximately 0,130 lt/m² per coat.</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Brush, roller, airless spraying equipment</td>
</tr>
<tr>
<td>Performance Data</td>
<td>Water Vapour Permeability = 0,150</td>
</tr>
<tr>
<td></td>
<td>Scrub Resistance (cycle) (ASTM 2486) = 300</td>
</tr>
<tr>
<td></td>
<td>Gloss (60°) (ISO 2813) = 3</td>
</tr>
<tr>
<td></td>
<td>Water Absorption (kg/m²·h(0,5)) (TS EN 1062 - 3) = 0,100 - 0,500</td>
</tr>
<tr>
<td></td>
<td>Service Temperature = (-30°C) - (+80°C)</td>
</tr>
</tbody>
</table>

### TS EN 1062-1 Classification
- Gloss: Class G3
- Film Thickness: Class E3
- Grain Size: Class S1
- Water Vapour Transmission: Class V1
- Liquid Water Permeability: Class W3
- Crack Bridging: Class A0
- CO₂ Permeability: Class C0

### Certificates of Quality
- TS 7847

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5101 Grena
Water Based Exterior Wall Paint
Description
Acrylic emulsion based, glossy, long lasting, decorative, exterior and interior wood, metal and wall paint.

Fields of Application
On old or new exterior and interior mineral surfaces such as concrete, mortar, cement panel etc., on metal and wood.

Properties
— Does not lose its gloss with time does not yellow or crack.
— Allows second coat application within 3 - 6 hours.
— With wide range of application; can be applied interior and exterior wood, metal and masonry surfaces.
— Durable to UV and high temperature, since not solvent based, does not yellow, crack and lose its gloss by time.
— High water vapour permeability, allowing the building to breathe.
— Waterproof; wash and scrub resistance.
— Alkali resistant.
— Solvent free and practically odourless.
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
— If necessary, fill the surface cracks and even the substrate with Kale İNCE / KALIN AKRİLİK MACUN, Kale MACUNART or Kalekim TAMİRART.
— To have a fine silky texture, smoothen the entire surface by using Kale İNCE AKRİLİK MACUN or Kale MACUNART.
— Prime the surfaces on which SUPAR is to be applied with a suitable primer, for timber and mineral surfaces prime with SUPAR thinned with clean water up to a maximum of 10-15% by volume and for metal surfaces with Kale ANTİPAS.
— Apply SUPAR without thinning in 2 coats using a brush, roller or spray system.
— Wait for a minimum of 6 hours before applying the final coat.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5°C and the surface is rain free during application and 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity and imminent rain or frost.
— Dampen the hot surfaces before the application.
— Not suitable for application on horizontal surfaces exposed to rain or moisture.
— The entire dryness is imperative to prevent the sticking of the new painted contacting metal and wood surfaces.

Safety Advices
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened pail.

Packaging
— 0,75 lt, 2,5 lt, 7,5 lt and 15 lt pails
— 0,75 lt and 2,5 lt packages packed together in 2s.
5102 Sportline
Water Based Court Paint

Description
Acrylic emulsion based, water resistant, long lasting court paint.

Fields of Application
Applicable for all mineral based court surfaces.

Properties
— Water repellent; provides an excellent protection against rain.
— Prevents fissures on the floor caused by freeze, mildew and algae growth on surface and also chemical corrosion.
— Alkali resistant.
— Long lasting, resists to UV rays, rain, heat and frost, thus retains its original properties without cracking, blistering or fading.
— Superior hiding power.
— Solvent free and practically odorless.
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitous substrates must be cured at least 28 days before application.
— Sand old synthetic based painted surfaces thoroughly and remove the occurring powder. Paint application is recommended after cement based flap is applied on bitumen based asphalt surfaces.
— Application surfaces should be primed by Kale SILASTAR.
— Before application Kale SPORTLİNE should be mixed thoroughly.
— After thoroughly mixing thin Kale SPORTLİNE with clean water up to a maximum of 10% by volume and apply in two coats by using a brush, roller or spray system.
— Clean the application tools with water right after usage.
— Ensure that the air and surface temperatures are above 5°C during the application and 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity and imminent rain or frost.
— Dampen the hot surfaces before the application.

Safety Advices
— S2 Keep out of the reach of children
— S24/25 Avoid contact with skin and eyes.
— S37 Wear suitable protective gloves.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened pail.

Packaging
— Available in 20 kg pails.

Technical Properties
(at 23°C and 50% RH)

General Data
Colors | White, claret red and green
Composition | Acrylic emulsion based
Thinner | Water
Density | Approx. 1.45 g/cm³

Application Data
Application Temperature Range | (+5°C) - (+35°C)
Drying Time | Recoatable after 6 hours and thoroughly dry after 24 hours.
Consumption | Depending on the evenness and the porosity of the surface approximately 0,200 kg/m² per coat
Application Tools | Brush, roller, airless spraying equipment.

Performance Data
Scrub Resistance (cycle) (ASTM 2486) | > 300
Gloss (60°) (ISO 2813) | Approx. 3
Water Absorption (kg/m² h⁰⁵) (TS EN 1082 - 3) | < 0.100
Service Temperature | (-30°C) - (+80°C)
Kale — Exterior Paint and Coatings

5104 Roadline
Water Based Road Marking Paint

Description
Acrylic emulsion based, matt, road marking paint.

Fields of Application
For traffic marking of highways, pavements, pedestrian crossings, car parks, airports etc.

Properties
— Environmentally friendly since it is water based and contains low VOC components.
— Non-flammable.
— High adhesion on concrete, asphalt and old painted surfaces.
— Binds to glass beads good and provides a very well appearance at night.
— Resistant to abrasion.
— Quick drying even at high humidity and low temperature.
— Application tools can easily be cleaned.

Application
— The substrate must be cleaned from dust, dirt and oil that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application.
— After thoroughly mixing Kale ROADLINE thin with clean water up to a maximum of 5% by volume and apply in two coats by using a brush, roller or spray system.
— Ensure that the air and surface temperatures are above 5°C during the application and 24 hours following the application.
— Do not apply in high relative humidity (>85%) or imminent rain.
— Fast drying paint, do not keep opened long time during application.

Safety Advices
— S2 Keep out of the reach of children
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened pail.

Packaging
— 15 lt pails.

Technical Properties
(at 23°C and 50% RH)

General Data
Colors | White and yellow
Composition | Acrylic emulsion based
Thinner | Water
Density | Approx. 1.65 g/cm³

Application Data
App. Temperature Range | (+10°C) - (+35°C)
Drying Time | Open to the traffic time is approx. 10 minutes.
Dry Through (ASTM D 1640) | ≤ 40 minutes
Consumption | Depending on the evenness and the porosity of the surface approximately 0.360 lt/m² per coat.
Application Tools | Road lining tools suitable for water based paints, brush, roller and airless spraying equipment.

Performance Data
Viscosity (KU) | 87.5 ± 7.6
pH | 11.0 ± 0.5
Opacity (TS EN 1871) | ≥ 95%
Bleeding Resistance (TS EN 1871) | AB ≤ 0.03
Scrub Resistance (cycle) (ASTM 2486) | ≥ 1200
Gloss Factor | ≥ 0.85
Service Temperature | (-30°C) - (+80°C)

Certificates of Quality: TS EN 1871
5005 Dekor
Line Textured Ready Mixed Plaster

Description
Polymer emulsion based, line textured, trowel applied, coarse, ready mixed interior and exterior plaster.

Fields of Application
On exterior mineral surfaces such as concrete, mortar, cement panel, etc., on previously painted surfaces and also on interior surfaces for decorative purposes.

Properties
— High water vapour permeability allowing building to breathe.
— Long lasting; resists to UV rays, rain, heat and frost, thus retains its original properties for years without cracking, blistering and fading.
— Alkaline resistant.
— Horizontal, vertical or circular line textures can be obtained by movements of trowel.
— Water resistant.
— Solvent free and practically odourless.
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
— Prime the surface with Kale SILASTAR or Kale UNIASTAR in the same color shade of the plaster.
— Mix Kale DEKOR thoroughly, if required add clean water until it reaches application viscosity.
— Spread Dekor evenly on the surface in the thickness of the grain size with plastic trowel.
— Texture by moving the trowel horizontally, vertically and roundly depending on the desired texture.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5°C and the surface is rain free during application and 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity, imminent rain or frost.
— Hot surfaces should be dampened before application.
— In order to avoid differences in shades of color, products with the same charge number should be used. In the event products with different charge numbers are to be used, the entire required amount should be mixed prior to application.
— In order to avoid overlapping in large areas or after work pauses, masking tape should be used or an adequate number of applicators should be employed to apply the plaster wet-on-wet without interruptions.

Safety Advices
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened pail.

Packaging
— Available in 25 kg pails.

Technical Properties
(at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data</th>
<th>TS EN 1062-1</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
<td>Film Thickness</td>
<td></td>
</tr>
<tr>
<td>Texture</td>
<td>Grain Size</td>
<td></td>
</tr>
<tr>
<td>Composition</td>
<td>Water Vapour Transmission</td>
<td></td>
</tr>
<tr>
<td>Thinner</td>
<td>Liquid Water Permeability</td>
<td></td>
</tr>
<tr>
<td>Application Data</td>
<td>Crack Bridging</td>
<td></td>
</tr>
<tr>
<td>Application Temperature Range</td>
<td>CO2 Permeability</td>
<td></td>
</tr>
<tr>
<td>Drying Time</td>
<td>Class E5</td>
<td></td>
</tr>
<tr>
<td>Consumption</td>
<td>Class S4</td>
<td></td>
</tr>
<tr>
<td>Application Tools</td>
<td>Class V1</td>
<td></td>
</tr>
<tr>
<td>Consumption</td>
<td>Class W2</td>
<td></td>
</tr>
<tr>
<td>Application Tools</td>
<td>Class A0</td>
<td></td>
</tr>
<tr>
<td>Plastic trowel.</td>
<td>Class C0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Vapour Permeability (SD m) (TS EN ISO 7783-2)</td>
<td>Approx. 0,100</td>
</tr>
<tr>
<td>Water Absorption (kg/m² h) (TS EN 1062-3)</td>
<td>0,100-0,500</td>
</tr>
<tr>
<td>Peeling Strength (Kgf) (AFNOR T 30706)</td>
<td>&gt; 2,5</td>
</tr>
<tr>
<td>Service Temperature</td>
<td>(-30°C) - (+80°C)</td>
</tr>
</tbody>
</table>

Certificates of Quality: TS 7847
Kale — Decorative Plasters

5006 Dekor Plus
Silicone Enhanced, Elastic, Line Textured, Ready Mixed Plaster

Description
Acrylic emulsion based, elastic, line textured, trowel applied, silicone enhanced, coarse, ready mixed interior and exterior plaster.

Fields of Application
On exterior mineral surfaces such as concrete, mortar, cement panel, etc., on previously painted surfaces and also on interior surfaces for decorative purposes.

Properties
— Elastic; covers the hair cracks on the surface and resists to movements of the building.
— Water repellent; provides rain to slide away without wetting the wall.
— High water vapour permeability allowing the building to breathe.
— Long lasting; resists to UV rays, rain, heat and frost, thus retains its original properties for years without cracking, blistering and fading.
— Alkali resistant.
— Horizontal, vertical or circular line textures can be obtained by movements of trowel.
— Water resistant
— Solvent free and practically odourless.
— Water thinnable and ecologically compatible

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
— Prime the surface with Kale SILASTAR or Kale UNIASTAR in the same color shade of the plaster.
— Mix Kale DEKOR PLUS thoroughly, if required add clean water until it reaches application viscosity.
— Spread Kale DEKOR PLUS evenly on the surface in the thickness of the grain size with plastic trowel.
— Texture by moving the trowel horizontally, vertically and roundly depending on the desired texture.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5°C and the surface is rain free during application and 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity, imminent rain or frost.
— In order to avoid differences in shades of color, products with the same charge number should be used. In the event products with different charge numbers are to be used, the entire required amount should be mixed prior to application.
— In order to avoid overlapping in large areas or after work pauses, masking tape should be used or an adequate number of applicators should be employed to apply the plaster wet-on-wet without interruptions.

Safety Advices
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35° C in its unopened pail.

Packaging
— Available in 25 kg pails.

Technical Properties
(at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data</th>
<th>Water Vapour Permeability (SD) (TS EN ISO 7783-2)</th>
<th>Approx. 0.150</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texture</td>
<td>Water Vapour Permeability (kg/m²·h⁻¹·Pa⁻¹) (TS EN 1062-3)</td>
<td>&lt; 0.100</td>
</tr>
<tr>
<td>Composition</td>
<td>Water Vapour Permeability (kg/m²·h⁻¹·Pa⁻¹) (TS EN 1062-3)</td>
<td>&lt; 0.100</td>
</tr>
<tr>
<td>Thinner</td>
<td>Water Vapour Permeability (kg/m²·h⁻¹·Pa⁻¹) (TS EN 1062-3)</td>
<td>&lt; 0.100</td>
</tr>
<tr>
<td>Application Temperature Range</td>
<td>Water Vapour Permeability (kg/m²·h⁻¹·Pa⁻¹) (TS EN 1062-3)</td>
<td>&lt; 0.100</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Water Vapour Permeability (kg/m²·h⁻¹·Pa⁻¹) (TS EN 1062-3)</td>
<td>&lt; 0.100</td>
</tr>
<tr>
<td>Consumption</td>
<td>Water Vapour Permeability (kg/m²·h⁻¹·Pa⁻¹) (TS EN 1062-3)</td>
<td>&lt; 0.100</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Water Vapour Permeability (kg/m²·h⁻¹·Pa⁻¹) (TS EN 1062-3)</td>
<td>&lt; 0.100</td>
</tr>
<tr>
<td>Performance Data</td>
<td>Water Vapour Permeability (kg/m²·h⁻¹·Pa⁻¹) (TS EN 1062-3)</td>
<td>&lt; 0.100</td>
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TS EN 1062-1

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<tr>
<th>Classification</th>
<th>Film Thickness</th>
<th>Grain Size</th>
<th>Water Vapour Transmission</th>
<th>Liquid Water Permeability</th>
<th>Crack Bridging</th>
<th>CO₂ Permeability</th>
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<tbody>
<tr>
<td>Class E5</td>
<td>Class S4</td>
<td>Class V2</td>
<td>Class W3</td>
<td>Class A0</td>
<td></td>
<td>Class C0</td>
</tr>
</tbody>
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Certificates of Quality: TS 7847
**Kale — Decorative Plasters**

**5026 Grenart Midi**
Silicone and Fiber Enhanced, Elastic, Ready Mixed Plaster

**Description**
Acrylic emulsion based, silicone and fiber enhanced, elastic, trowel applied, coarse, ready mixed exterior and interior plaster with sprayed texture.

**Fields of Application**
On exterior mineral surfaces such as concrete, mortar, cement panel, etc., on previously painted surfaces and also on interior surfaces for decorative purposes.

**Properties**
- Elastic; covers the hair cracks on the surface and resists to movements of the building.
- Fiber enhanced; easily applicable.
- Water repellent; provides rain to slide away without wetting the wall.
- High water vapour permeability allowing the building to breathe.
- Long lasting, resists to UV rays, rain, heat and frost, thus retains its original properties for years without cracking, blistering and fading.
- Water resistant.
- Alkal resistant.
- Solvent free and practically odourless.
- Water thinnable and ecologically compatible.

**Application**
- The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
- Prime the surface with Kale SILASTAR or Kale UNIASTAR in the same color shade of the plaster.
- Mix Kale GRENA RT MIDI thoroughly before application until it gets homogeneous.
- Spread Kale GRENA RT MIDI evenly on the surface using a stainless steel trowel and texture immediately by plastic trowel.
- Clean the tools with water.
- Ensure that the air and surface temperatures are above 5°C and the surface is rain free during application and 24 hours following the application.
- Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity, imminent rain or frost.
- Hot surfaces should be dampened before application.

**Safety Advices**
- S2 Keep out of the reach of children.
- S24/25 Avoid contact with skin and eyes.
- S46 If swallowed, seek medical advice.

**Storage**
- Store between 5°C-35°C in its unopened pail.

**Packaging**
- Available in 25 kg pails.

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**Technical Properties** (at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data</th>
<th>TS EN 1062-1 Classification</th>
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</thead>
<tbody>
<tr>
<td>Colors</td>
<td>Gloss</td>
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<tr>
<td>Texture</td>
<td>Class G3</td>
</tr>
<tr>
<td>Composition</td>
<td>Film Thickness</td>
</tr>
<tr>
<td>Maximum Grain Size</td>
<td>Class E5</td>
</tr>
<tr>
<td>Thinner</td>
<td>Grain Size Class</td>
</tr>
<tr>
<td>Water Vapour Permeability</td>
<td>Class S4</td>
</tr>
<tr>
<td>Application Temperature Range</td>
<td>Class V2</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Liquid Water Permeability</td>
</tr>
<tr>
<td>Consumption</td>
<td>Crack Bridging</td>
</tr>
<tr>
<td>Application Tools</td>
<td>CO2 Permeability</td>
</tr>
</tbody>
</table>

**Performance Data**

| SD (m) (TS EN ISO 7783-2) | Approx. 0.100 |
| Water Absorption (kg/m² h⁻¹) (TS EN 1062-3) | < 0.100 |
| Peeling Strength (Kgf) (AFNOR T 30706) | > 2.5 |
| Service Temperature (-30°C - +60°C) |                |

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**Certificates of Quality:** TS 7847
Kale — Decorative Plasters

5024 Grenart Micro
Silicone Enhanced, Elastic, Ready Mixed Plaster

Description
Acrylic emulsion based, sprayed texture, trowel applied, fine, ready mixed exterior and interior plaster.

Fields of Application
On exterior mineral surfaces such as concrete, mortar, cement panel, etc. on previously painted surfaces and also on interior surfaces for decorative purposes.

Properties
— Elastic; covers the hair cracks on the surface and resists to movements of the building.
— Water repellent; provides rain to slide away without wetting the wall.
— High water vapour permeability allowing building to breathe.
— Long lasting, resists to UV rays, rain, heat and frost, thus retains its original properties for years without cracking, blistering and fading.
— Alkali resistant.
— Water resistant.
— Solvent free and practically odourless,
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
— Prime the surface with Kale SILASTAR or Kale ÜNİASTAR in the same color shade of the plaster.
— Mix Kale GRENART MICRO thoroughly before application until it is homogeneous.
— Spread Kale GRENART MICRO evenly on the surface using a stainless steel trowel and texture immediately by plastic trowel.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5°C and the surface is rain free during application and 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity, imminent rain or frost.
— Hot surfaces should be dampened before application.

Technical Properties (at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data</th>
<th>TS EN 1062-1 Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
<td>Gloss</td>
</tr>
<tr>
<td>Texture</td>
<td>Film Thickness</td>
</tr>
<tr>
<td>Composition</td>
<td>Grain Size</td>
</tr>
<tr>
<td>Maximum Grain Size</td>
<td>Water Vapour Transmission</td>
</tr>
<tr>
<td>Thinner</td>
<td>Liquid Water Permeability</td>
</tr>
<tr>
<td>Water</td>
<td>Crack Bridging</td>
</tr>
<tr>
<td>Application Temperature Range</td>
<td>CO₂ Permeability</td>
</tr>
</tbody>
</table>

Drying Time
Surface dry after 24 hours and thoroughly dry after 2-3 days. Lower temperatures and/or higher relative humidity will lengthen the drying process.

Consumption
Depending on the evenness of the surface approximately 2,2-2,8 kg/m²

Application Tools
Steel or plastic trowel

Performance Data

| Water Vapour Permeability (SD) (TS EN ISO 7783-2) | Approx. 0,100 |
| Water Absorption (kg/m² h1/3) (TS EN 1062-3) | < 0,100 |
| Peeling Strength (Kgf) (AFNOR T 30706) | > 2,5 |
| Service Temperature | (-30°C) - (+80°C) |

Safety Advises
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened pail.

Packaging
— Available in 25 kg pails.
5055 Renotex Plus
Silicone Enhanced, Roller Applied Ready Mixed Plaster

Description
Acrylic emulsion based, roller applied, fine, silicone enhanced, exterior and interior ready mixed plaster that can be applied in different thicknesses and textures by the use of a trowel or roller.

Fields of Application
On exterior mineral surfaces such as concrete, mortar, cement panel, etc., on previously painted surfaces and also on interior surfaces for decorative purposes.

Properties
— Water repellent; causes rain to slide away without wetting the wall.
— High water vapour permeability allowing the building to breathe.
— Long lasting; resists to UV rays, rain, heat and frost, thus retains its original properties for years without cracking, blistering and fading.
— Alkali resistant.
— Various decorative textures obtained by the use of different thinning ratios and different rollers.
— Solvent free and practically odourless.
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application. — Prime the surface with Kale SILASTAR or Kale ÜNİASTAR in the same color shade of the plaster. — Mix Kale RENOTEX PLUS thoroughly before application until it gets homogeneous.
— Thin with clean water by 10% for flat texture and 5% for fine texture. Do not thin for coarse textures.
— Spread Kale RENOTEX PLUS evenly on to the surface with a plastic trowel and texture with a saturated roller or apply directly by using a saturated roller.
— Keep thinning ratio constant throughout the application to apply Kale RENOTEX PLUS onto the surface.
— Start texturing before Kale RENOTEX PLUS begins drying (at most after 5 minutes in very hot days)
— Clean the tools with water.
— Ensure that the air and surface temperature are above 5°C and the surface is rain free during application and 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity, imminent rain or frost.
— Hot surfaces should be dampened before application.
— In order to avoid color shade differences products with the same charge number should be used. In the event products with different charge numbers are to be used, the entire required amount should be mixed prior to application.
— In order to avoid overlapping in large areas or after work pauses, masking tape should be used or an adequate number of applicators should be employed to apply the plaster wet-on-wet without interruptions.

Safety Advices
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened pail.

Packaging
— Available in 25 kg pails.

Certificates of Quality: TS 7847

Technical Properties
(at 23°C and 50% RH)

General Data
| Colors | Available in 144 colors of the exterior color chart. Tintable by Renk Ustası |
| Texture | Roller textured |

Composition
Acrylic emulsion based

Application Temperature Range
Surface dry after 24 hours and thoroughly dry after 2-3 days.

Consumption
(Depending on desired texture)
Flat textures 1,0-1,2 kg/m²
Fine textures 1,2-1,7 kg/m²
Coarse textures 1,7-2,0 kg/m²

Application Tools
Roller, airless spraying system

Performance Data
Water Vapour Permeability
SD (m) (TS EN ISO 7783-2) Approx. 0,300
Water Absorption
(kg/m² h) (TS EN 1062-3) < 0,100
Peeling Strength
(Kgf) (AFNOR T 30708) > 2,5
Service Temperature
(-30°C) - (+80°C)
**Kale — Decorative Plasters**

**5030 Drewa**

**Natural Marble Chip Plaster**

**Description**
Acrylic emulsion based, trowel applied, coarse, ready mixed, interior and exterior, natural colored marble chip plaster.

**Fields of Application**
On exterior mineral surfaces such as concrete, mortar, cement panel, etc., on previously painted surfaces and also on interior surfaces for decorative purposes.

**Properties**
- Long lasting; resists to UV rays, rain, heat and frost, thus retains its original properties for years without cracking, blistering and fading.
- High water vapour permeability allowing the building to breathe.
- Alkali resistant.
- Water resistant.
- Decorative with its natural texture and 30 colors
- Solvent free and practically odourless.
- Water thinnable and ecologically compatible.

**Application**
- The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
- Prime the surface with Kale SILASTAR or Kale UNIASTAR in the same color shade of the plaster.
- Mix Kale DREWA thoroughly until it gets homogeneous.
- Spread Kale DREWA evenly on the surface in the same thickness of the marble chips by using a stainless steel trowel.
- Taking air temperature and humidity into consideration, after 5-10 minutes texture and level the whole surface.
- Clean the tools with water.
- Ensure that the air and surface temperature are above 5°C and the surface is rain free during application and 24 hours following the application.
- Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity, imminent rain or frost.
- Hot surfaces should be dampened before application.
- In order to avoid color shade differences products with the same charge number should be used. In the event products with different charge numbers are to be used, the entire required amount should be mixed prior to application.
- In order to avoid overlapping in large areas or after work pauses, masking tape should be used or an adequate number of applicators should be employed to apply the plaster wet-on-wet without interruptions.

**Safety Advises**
- S2 Keep out of the reach of children.
- S24/25 Avoid contact with skin and eyes.
- $46$ If swallowed, seek medical advice.

**Storage**
- Store between 5°C-35°C in its unopened pail.

**Packaging**
- Available in 25 kg pails.

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<table>
<thead>
<tr>
<th>Technical Properties</th>
<th>(at 23°C and 50% RH)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Data</strong></td>
<td></td>
</tr>
<tr>
<td>Colors</td>
<td>Available in 30 original colors</td>
</tr>
<tr>
<td>Texture</td>
<td>Contains coarse, natural colored marble chips</td>
</tr>
<tr>
<td>Composition</td>
<td>Acrylic emulsion based</td>
</tr>
<tr>
<td>Thinner</td>
<td>Water</td>
</tr>
<tr>
<td><strong>Application Data</strong></td>
<td></td>
</tr>
<tr>
<td>Application Temperature Range</td>
<td>(15°C) - (35°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Lower temperatures and/or higher relative humidity will lengthen the drying process.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness of the surface approximately 4.0-5.0 kg/m²</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Stainless steel trowel</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>12 months in its original sealed packaging and in dry environment</td>
</tr>
<tr>
<td><strong>Performance Data</strong></td>
<td></td>
</tr>
<tr>
<td>Water Vapour Permeability (SD m) (TS EN ISO 7783-2)</td>
<td>Approx. 0.150</td>
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<tr>
<td>Water Absorption (kg/m² h⁰.⁵) (TS EN 1062-3)</td>
<td>0.100 - 0.500</td>
</tr>
<tr>
<td>Peeling Strength (KgF) (AFNOR T 30706)</td>
<td>&gt; 2.5</td>
</tr>
<tr>
<td>Service Temperature</td>
<td>(-30°C) - (+80°C)</td>
</tr>
</tbody>
</table>

Complies with: TS 7847
Description
Acrylic emulsion based, trowel applied, fine, ready mixed, interior and exterior surfaces natural colored marble chip plaster.

Fields of Application
On exterior mineral surfaces such as concrete, mortar, cement panel, etc., on previously painted surfaces and also on interior surfaces for decorative purposes.

Properties
— Long lasting; resists to UV rays, rain, heat and frost, thus retains its original properties for years without cracking, blistering and fading.
— High water vapour permeability allowing the building to breathe.
— Alkal resistant.
— Water resistant.
— Decorative with its natural texture and 30 colors.
— Water thinnable and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitious substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
— Prime the surface with Kale SILASTAR or Kale UNIASTAR in the same color shade of the plaster.
— Mix Kale MIKRO DREWA thoroughly until it gets homogeneous.
— Spread Kale MIKRO DREWA evenly on the surface in the same thickness of the marble chips by using a stainless steel trowel.
— Taking air temperature and humidity into consideration, after 5-10 minutes texture and level the whole surface.
— Clean the tools with water.
— Ensure that the air and surface temperature are above 5°C and the surface is rain free during application and 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity, imminent rain or frost.
— Hot surfaces should be dampened before application.
— In order to avoid color shade differences products with the same charge number should be used. In the event products with different charge numbers are to be used, the entire required amount should be mixed prior to application.
— In order to avoid overlapping in large areas or after work pauses, masking tape should be used or an adequate number of applicators should be employed to apply the plaster wet-on-wet without interruptions.

Safety Advises
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened pail.

Packaging
— Available in 25 kg pails.
Texture and Colors of Drewa

Texture and Colors of Mikro Drewa

NOTICE! Due to printing techniques, there may be differences between color tones shown here and emerged after application.
Textures of Plasters

Dekor / Dekor Plus

Grenart Midi

Grenart Micro

NOTICE! Due to printing techniques, there may be differences between color tones shown here and emerged after application.
NOTICE! Due to printing techniques, there may be differences between color tones shown here and emerged after application.
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<td>İnce Akrilik Macun</td>
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<td>75</td>
<td>Kaın Akrilik Macun</td>
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</tbody>
</table>
Points to Consider Before Application

Surface Preparation
Surface preparation work is very important to guarantee the very best results from any paint application. The substrate should be treated according to the type of coating that will be applied; defects in architectural details should be corrected and all necessary water insulation precautions should be taken beforehand. The surface must be completely cleaned from old and loose paint layers into a clean, dry and sound condition. If necessary; surface cracks should be filled with the appropriate repair materials and the surface should be evened out. A primer should be applied before the very last layer of coating in order to increase the adhesion and durability of the final coat. The surface preparations should be properly carried out to attain a smooth looking and long lasting paint application.

Weather Conditions
Coating materials should not be applied in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity, imminent rain. The air and substrate temperature should not be below 5°C during application.

Surface Cleaning
The surface must be completely cleaned from old and loose paint layers into a clean, dry and sound condition. If necessary, all areas should be sandpapered prior to the application. Water with detergent can be used to clean oils and grease from the surface, high pressure water jets can be used to clean excessively dusty areas. Coating applications should not start until the surfaces have dried thoroughly.

Moisture
Excessive moisture may decrease the adherence of the coating to the wall and cause blistering, flaking and mould formation. In some situations the moisture could be the result of a structural problem. Problems caused by leaking pipes or moisture diffusion from soil should be eradicated before the plaster or paint application takes place. Failure to take the effective measures will eventually cause the last layer of coat to blister. Problems caused by insufficient water insulation will not only result in a poor appearance but also harm the building structure.

Surfaces With Older Paint
If the existing paint has swollen or flaked off, the areas affected should be sandpapered. Kale KALIN / İNCE AKRİLİK MACUN can be used to fill cracks and even the surface. Surfaces with older paint or very dirty surfaces should be primed with Kale ÜNİASTAR or SİLASTAR. Mouldy surfaces, surfaces with older paint should be cleaned with a wet cloth before any application, taking care not to disperse the mould. Lastly, Kale KÜF TEMİZLEYİCİ (Mildew and Algae Cleaner) should be applied to the surface. The coating application can be made after the surface dries.
Primer Color Suggestions

Both in interior and exterior usage, choosing the primer color similar to the color of the coating will contribute to hiding power of paint and plaster as well as leading to spending of less effort during application. In the below stated table, you may find our suggestions for primer colors to be used under paint and plaster on exteriors.

<table>
<thead>
<tr>
<th>Primer Color</th>
<th>Primer Code</th>
<th>Exterior Paint / Plaster Color Code</th>
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</thead>
<tbody>
<tr>
<td>3033</td>
<td>4032 - 4033 - 4461 - 4462 - 4472 - 4473 - 4543 - 4552 - 4553</td>
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<tr>
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<td>4025 - 4035 - 4046 - 4464 - 4474 - 4554</td>
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<td>4044 - 4054 - 4055 - 4064 - 4065 - 4066 - 4074 - 4075 - 4076 - 4084 - 4094 - 4104 - 4533</td>
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<td>4043 - 4051 - 4053 - 4061 - 4082 - 4083 - 4092 - 4093 - 4101 - 4102 - 4103 - 4111 - 4531 - 4532</td>
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<td>4045 - 4056 - 4085 - 4095 - 4096 - 4105 - 4106 - 4534 - 4535 - 4536</td>
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<tr>
<td>3132</td>
<td>4113 - 4114 - 4122 - 4123 - 4132 - 4133 - 4141 - 4142 - 4151 - 4171 - 4172 - 4511 - 4512 - 4521</td>
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<td>4225 - 4226</td>
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<tr>
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<td>4181 - 4182 - 4183 - 4193 - 4231 - 4232 - 4233 - 4242 - 4243 - 4382 - 4383 - 4563 - 4564 - 4572 - 4573</td>
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<td>3234</td>
<td>4184 - 4234 - 4244 - 4245 - 4246 - 4584 - 4574</td>
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</tr>
<tr>
<td>3375</td>
<td>4205 - 4206 - 4375 - 4376</td>
<td></td>
</tr>
</tbody>
</table>

NOTICE! Due to printing techniques, there may be differences between color tones shown here and emerged after application.
**Kale — Surface Preparation Materials**

5310 Üniastar
Plaster and Paint Primer

**Description**
Acrylic emulsion based, pigmented primer, suitable for priming the surfaces on which any type of water based decorative coatings will be applied.

**Fields of Application**
Prior to emulsion based coating application on all kinds of exterior mineral surfaces such as concrete, plaster and cement panel etc., and on old painted surfaces.

**Properties**
- Fills hair cracks, reinforces the substrates, increases the adhesion of surface coating.
- Pigmented; provides hiding.
- Reinforces the substrates, increases the adhesion of surface coating.
- Decreases paint consumption by decreasing the absorbency of the substrate.
- Solvent free and practically odorless.
- Water thinnable and ecologically compatible.

**Application**
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. Cementitious substrates must be cured. All water insulation precautions should have been taken prior to application. Cementitious substrates must be cured.
— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
— If necessary, the surface cracks should be filled and the substrate should be evened with Kale İNCE / KALIN AKRİLİK MACUN, Kale MACUNART or Kalekim TAMİRART.
— Thin with clean water ÜNİASTAR with clean water up to 1/1 ratio in volume mix thoroughly and apply using a brush, roller or spray system. For application on gypsum panels or putty surfaces thin at a ratio of 1/2-1/3 by volume to ensure the best possible satin texture.
— Wait for a minimum of 6 hours before applying the final coat.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5°C and the surface is rain free during application and 24 hours following the application.

— Do not apply in extremely hot weather; under glaring sun, during strong wind, fog, high relative humidity and imminent rain or frost.
— Dampen the hot surfaces before the application.
— Not suitable for application on horizontal surfaces exposed to rain or moisture.

**Safety Advices**
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

**Storage**
— Store between 5°C-35°C in its unopened pail.

**Packaging**
— 4 kg and 25 kg pails
— 4 kg packages packed together in 2s.

---

**Technical Properties**
(at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
</tr>
<tr>
<td>Composition</td>
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<tr>
<td>Thinner</td>
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<td>Density</td>
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<table>
<thead>
<tr>
<th>Application Data</th>
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</thead>
<tbody>
<tr>
<td>Application Temperature Range</td>
</tr>
<tr>
<td>Drying Time</td>
</tr>
<tr>
<td>Consumption</td>
</tr>
<tr>
<td>Application Tools</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Temperature</td>
</tr>
</tbody>
</table>

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**Certificates of Quality: TSEK**
Kale ——— Surface Preparation Materials

**5335 Silastar**
Silicone Enhanced Primer

**Description**
Silicone enhanced, acrylic emulsion based, pigmented primer with a high penetration and water proofing power for priming the surfaces on which any type of water based decorative coating will be applied.

**Fields of Application**
Prior to emulsion based coating application on all kinds of porous, highly absorbent surfaces like concrete, plaster, gypsum, gypsum panel and putty etc., and on old painted surfaces.

**Properties**
— Silicone content enables deep penetration under the surface reducing water absorption.
— Pigmented; provides hiding.
— Reinforces the substrates, increases the adhesion of surface coating.
— Decreases paint consumption by decreasing the absorption of the substrate.
— Solvent free and practically odourless.
— Water thinnable and ecologically compatible.

**Application**
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. Cementitious substrates must be cured. All water insulation precautions should have been taken prior to application.
— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
— If necessary, the surface cracks should be filled and the substrate should be evened with Kale İNCE / KALIN AKRİLİK MACUN, Kale MACUNART or Kalekim TAMİRART.
— Thin Kale SILASTAR with clean water up to a maximum of 10% by volume and apply in a single coat using a brush, roller or spray system.
— Wait for a minimum of 6 hours before applying the final coat.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5°C and the surface is rain free during application and 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity and imminent rain or frost.
— Dampen the hot surfaces before the application.
— Not suitable for application on horizontal surfaces exposed to rain or moisture.

**Safety Advices**
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

**Storage**
— Store between 5°C-35°C in its unopened pail.

**Packaging**
— 2,5 lt and 15 lt pails
— 2,5 lt packages packed together in 2s.

---

**Technical Properties**
(at 23°C and 50% RH)

**General Data**
- Colors: Available in white and 19 colors. Tintable by Renk Ustası
- Composition: Acrylic emulsion based
- Thinner: Water
- Density: Approx. 1,51 g/cm³

**Application Data**
- Application Temperature Range: (+5°C) - (+35°C)
- Drying Time: Ready for the application of the final coating after 6 hours
- Lower temperatures and/or higher relative humidity will lengthen the drying process
- Consumption: Depending on the evenness and the porosity of the surface approximately 0,080 lt/m²
- Application Tools: Brush, roller, airless spraying equipment

**Performance Data**
- Service Temperature: (-30°C) - (+80°C)

---

**Certificates of Quality: TSEK**
**5337 Saten Alçı Astarı**

Satin Plaster Clear Primer

**Description**
Acrylic emulsion based, ready to use, unpigmented primer for priming the surfaces on which any type of water based paint will be applied.

**Fields of Application**
Prior to emulsion based coating application on all kinds of porous, highly absorbent and / or unsound mineral surfaces such as concrete, mortar, gypsum, gypsum panel, putty etc., and on old painted surfaces.

**Properties**
- Penetrates deeply to the substrate thanks to its filler free structure, reinforces the substrate and increases the adhesion of surface coating to the substrate
- Decreases paint consumption by decreasing the absorbency of the substrate
- Prevents cracking of coating in very hot weather due to quick drying
- Ready to use, rapid drying, easy to apply.
- Solvent free and practically odourless,
- Water thinnable and ecologically compatible.

**Application**
- The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. New cementitous substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
- Sand glossy, solvent based painted surfaces to improve adhesion and remove the occurring powder.
- If necessary, fill the surface cracks and even the substrate with İnce / Kalın Akrilik Macun, Macunart or Kalekim Tamirart.
- Mix Saten Alçı Astarı thoroughly before application.
- Apply to the surface without thinning using a brush, roller or spray system.
- Apply the coating material 6 hours after the application of Saten Alçı Astarı.
- Clean tools with water.
- Ensure that the air and surface temperatures are above 5°C and the surface is rain free during application and during the 24 hours following the application.

**Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity, imminent rain or frost.**

**Safety Advices**
- S2 Keep out of the reach of children.
- S24/25 Avoid contact with skin and eyes.
- S46 If swallowed, seek medical advice.

**Storage**
- Store between 5°C-35°C in its unopened barrel.

**Packaging**
- 5 lt and 20 lt plastic barrels.
- 5 lt packages packed together in 2s.

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**Technical Properties**
(at 23°C and 50% RH)

**General Data**
- Colors: Clear
- Composition: Acrylic emulsion based
- Thinner: Water

**Application Data**
- Application Temperature Range: (+5°C) - (+35°C)
- Drying Time: Ready for the application of the final coating after 6 hours.
- Consumption: Depending on the evenness and the porosity of the surface approximately, 0.090 lt/m²
- Application Tools: Brush, roller paint, airless spraying equipment.

**Performance Data**
- Service Temperature: (-30°C) - (+80°C)
4009 Macunart
Cement Based, Water Resistant, Fine, Surface Smoothening Putty

Description
Cement based, fine, white, surface smoothening putty formulated for smoothing the uneven concrete and mineral surfaces, filling up the hair cracks and for covering interior and exterior surface defects.

Fields of Application
For smoothing the uneven concrete and mineral surfaces, for filling up the hair cracks and for covering the surface defects due to removal of blistered old coating.

Properties
— Forms very strong, non-dusting and smooth surfaces, thus contributes to the appearance and the resistance of the top coat.
— Resistant to water and to moisture; when dampened, does not soften or does not weaken the adherence of the top coat to the substrate.
— Compared to gypsum panels and gypsum based materials, has higher durability and adherence strength therefore more resistant against cracking.
— Reduces paint consumption by decreasing the absorbency of the surface.
— Having high filling capacity, at most 2 layers will be sufficient to achieve a smooth surface.
— Easy to apply.
— Easy to sand, non-dusting.
— Does not prevent the water vapour permeability of the wall.

Surface Preparation
— The substrate must be sound, dry, clean and free from all materials that may prevent good adhesion.
— The cracks larger than 3 mm. should be repaired with Kalekim TAMİRART.
— The surface should be dampened before the application or should be primed with Kale SATEN ALÇI ASTARI or Kale SİLASTAR for a better result.
— 20 kg of Kale MACUNART should be poured in 8-9 liters of clean water slowly; and mixed well until no lumps remain. Low speed mixer is recommended for mixing process.
— The mixture should be matured for 5-10 minutes, then mixed again before the application.
— The prepared mortar should be applied to the surface using a stainless steel trowel.
— If putty is to be applied more than one coat 2-3 hours should passed between two coats. Total thickness of the putty should not exceed 3 mm.
— Consume the prepared mortar within 4 hours. Dispose of the mortar that exceeds the pot life.
— Do not add any additives, except the ones stated in the product application instructions.
— Ensure that the air and substrate temperature is above 5°C during the application and 24 hours following the application.
— Do not apply in extremely hot weather or during strong wind.
— The surface should be sanded when the mortar gets totally dry.
— The application should be held in between 5°C-35°C.

Safety Advises
— R37/38 Irritating to respiratory system and skin.
— R43 May cause sensitisation by skin contact.
— S2 Keep out of the reach of children.
— S22 Do not inhale its dust
— S24/25 Avoid contact with skin and eyes.
— S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
— S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
— S46 If swallowed, seek medical advice.

Storage
— Store in dry medium. Do not stack more than 10 bags on top of each other.

Technical Properties

<table>
<thead>
<tr>
<th>Technical Properties</th>
<th>(at 23°C and 50% RH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Data</td>
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</tr>
<tr>
<td>Appearance</td>
<td>White</td>
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<tr>
<td>Shelf Life</td>
<td>12 months when stored in the original sealed package</td>
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<tr>
<td>Application Data</td>
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<tr>
<td>Application Temperature Range</td>
<td>(5°C) - (35°C)</td>
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<tr>
<td>Water Mixing Ratio</td>
<td>8-9 lt water / 20 kg powder</td>
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<tr>
<td>Pot Life</td>
<td>Min. 5 hours</td>
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<tr>
<td>Ready for Use</td>
<td>24 hours</td>
</tr>
<tr>
<td>Waiting Time Between the Coats</td>
<td>2-3 hours between coats</td>
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<tr>
<td>Lower temperature or higher relative humidity will lengthen the drying process.</td>
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</tr>
<tr>
<td>Application Tools</td>
<td>Stainless steel trowel</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness and the porosity of the surface approximately 0,5-1,0 kg for 1 mm. application thickness. Application should be held in maximum 3 mm.</td>
</tr>
<tr>
<td>Performance Data</td>
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<tr>
<td>Compression Strength – Class (EN 12190)</td>
<td>≥ 10 MPa</td>
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<tr>
<td>Bonding Strength (EN 1542)</td>
<td>≥ 0,8 MPa</td>
</tr>
<tr>
<td>Flexural Strength (EN 12190)</td>
<td>≥ 2,8 N/mm² (28 days)</td>
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<tr>
<td>Compressive Strength (EN 12190)</td>
<td>≥ 16,3 N/mm² (28 days)</td>
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<tr>
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<td>≥ 1,0 N/mm²</td>
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<td>Reaction to Fire (TS EN 13501-1)</td>
<td>European Classification A1</td>
</tr>
<tr>
<td>Dangerous Substances</td>
<td>Complies item 5,4</td>
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<tr>
<td>Service Temperature</td>
<td>(30°C) - (80°C)</td>
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</tbody>
</table>

TS-EN 1504-3 (April 2008)
Description
Acrylic copolymer emulsion based surface smoothening putty formulated at an optimum thickness to cover the common surface defects of interiors.

Fields of Application
Surface smoothening putty; for smoothing the concrete and cementitious plastered rough surfaces, for filling up the hair cracks and for covering the surface defects appeared due to removal of blistered old coating.

Properties
— Forms very strong, non-dusting and smooth surfaces.
— Resistant to moisture.
— Does not prevent the water vapour permeability of the wall.
— Decreases paint consumption by decreasing the surface porosity.
— Easy to apply, ready to use.
— High filling capacity, creates a surface, at maximum, in two coats.
— Easily sandable.
— Water based and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. Cementitious substrates must be cured. All water insulation precautions should have been taken prior to application.
— To repair the cracks larger then 3 mm. apply Kale KALIN AKRİLİK MACUN first.
— Prime new and porous or very absorbent surfaces with Kale SATEN ALÇI ASTARI.
— After thoroughly mixing, apply Kale İNCE AKRİLİK MACUN in one or two coats by a spatula or an elastic steel trowel depending on the roughness of the surface.
— Sand the surface to remove the spatula marks after 24 hours from the application.
— Before the application of the coating material on putty, prime the surface with Kale ÜNİASTAR or SILASTAR.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5°C and the surface is rain free during application and 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity and imminent rain or frost.
— Dampen the hot surfaces before the application.

Safety Advices
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened pail.

Packaging
— 5 kg and 25 kg pails
— 5 kg packages packed together in 2s.

Technical Properties
(at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>General Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
<td>Off white</td>
</tr>
<tr>
<td>Composition</td>
<td>Acrylic emulsion based</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+35°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Thoroughly dry after 24 hours.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness and the porosity of the surface approximately 0,5-1,5 kg/ m²</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Spatula, elastic stainless steel trowel.</td>
</tr>
</tbody>
</table>

Performance Data
| Service Temperature | (-30°C) - (+80°C) |

5510 İnce Akrilik Macun
Water Based, Fine Surface Smoothening Putty
5520 Kalın Akrilik Macun
Water Based, Thick Surface Smoothening Putty

Description
Acrylic copolymer emulsion based surface smoothening putty formulated at an optimum thickness to cover the common surface defects of exteriors.

Fields of Application
Surface smoothening putty; for smoothing the concrete and cementitious plastered rough surfaces, for filling up the hair cracks and for covering the surface defects appeared due to removal of blistered old coating.

Properties
— Forms very strong, non-dusting and smooth surfaces.
— Resistant to moisture.
— Does not prevent the water vapour permeability of the wall.
— Decreases paint consumption by decreasing the surface porosity
— Easy to apply, ready to use.
— High filling capacity, creates a surface, at maximum, in two coats.
— Easily sandable.
— Water based and ecologically compatible.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound, clean and dry. Cementitious substrates must be cured. All water insulation precautions should have been taken prior to application.
— Prime new and porous or very absorbent surfaces with Kale SATEN ALÇI ASTARI.
— For exterior uses, prepare a mixture of water and white cement, at 20 percent weight of KALIN AKRİLİK MACUN, then add it to KALIN AKRİLİK MACUN. Mixture should be used in 1 hour.
— After thoroughly mixing, apply Kale İNCE AKRİLİK MACUN in one or two coats by a spatula or an elastic steel trowel depending on the roughness of the surface.
— Apply Kale KALIN AKRİLİK MACUN or MACUNART after the coating of KALIN AKRİLİK MACUN if more smoothness is required.
— Sand the surface to remove the spatula marks after 24 hours from the application.
— Before the application of the coating material on putty, prime the surface with Kale ÜNİASTAR or SILASTAR.
— Clean the tools with water.
— Ensure that the air and surface temperatures are above 5°C and the surface is rain free during application and 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity and imminent rain or frost.
— Dampen the hot surfaces before the application.

Safety Advices
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened pail.

Packaging
— 5 kg and 25 kg pails
— 5 kg packages packed together in 2s.

Technical Properties
(at 23°C and 50% RH)

<table>
<thead>
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<th>General Data</th>
<th></th>
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<td>Colors</td>
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</tr>
<tr>
<td>Composition</td>
<td>Acrylic emulsion based</td>
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<thead>
<tr>
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<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+35°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>Thoroughly dry after 24 hours.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the evenness and the porosity of the surface approximately 1,2-2,2 kg/m²</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Spatula, elastic stainless steel trowel</td>
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<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Temperature</td>
<td>(-30°C) - (+80°C)</td>
</tr>
</tbody>
</table>
Kale ——— Tinting System

5700 Renk Ustası
Universal Tinting System

Description
Universal manual tinting system allowing anybody to create his own color by adding any of 24 different, light fast, universal, concentrated pigment pastes, offered in dropper bottles into a white paint / coating material he chooses.

Fields of Application
For tinting water and solvent based white decorative paints, plasters, primers, water based white industrial paints and transparent / clear coatings, varnishes, lacquers, wood stains and also for grouting mortars.

Properties
— Concentrated pigment paste not paint; universal, light and weather fast pigment paste with a high degree of durability for exterior use.
— Tinting strength is quite high, allowing to achieve the desired color with a very little amount of colorant.
— Capable of tinting of almost any coating material
— Does not dry out or form lump and skin in the bottle.
— Easy to use.
— Lowers stock costs.
— Provides an infinite number of colors of your imagination in addition to the 144 colors presented in its color card.
— Does not change the properties of material added into.

Application
— Add Renk Ustası colorant by 10% to emulsion based paints, 5-8% to synthetic paints and 3-5% for transparent materials like varnishes and lacquers.
— Add first Renk Ustası colorant and then the thinner if required. After emptying the package, mix the remaining concentrate in the package with paint thinner, shake and add to the paint mix.
— Renk Ustası is a concentrated pigment paste and cannot be used as it is only by adding into the paint or coating material.
— In tinting of more than one pail, to prevent any shade differences it is recommended to mix all tinted paints at a time.
— Tint Kale branded paints and plasters in the desired shade of RENK USTASI color by using the white paint / colorant mixing ratios given in the RENK USTASI color card.
— Use the ratios given for the equivalent in case of tinting the products of different manufacturers. To make fine color adjustments to prevent color deviations. For tinting synthetic based paints, use appropriate values stated in RENK USTASI color card.
— Shake thoroughly before use and close firmly after use to prevent drying out and skin formation.
— Test compatibility before tinting some special products like polyester, pliolite based products.

Safety Advices
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened bottles.

Packaging
— 20 ml. and 150 ml. dropper bottles.
— 20 ml. packages are packed in 10s and 150 ml. packages are packed in 4s.

General Data
<table>
<thead>
<tr>
<th>Color</th>
<th>24 colors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition</td>
<td>Concentrated pigment paste</td>
</tr>
</tbody>
</table>
5600 Renklendirici
Universal Concentrated Pigment Paste

Description
Universal concentrated pigment paste with a high degree of resistance to light and changing weather conditions developed to be used in automatic tinting system named RENK BANKASI. Color strength and consistency of RENKLENDİRİCI are adjusted very sensitively.

Fields of Application
In automatic tinting system, Renk Bankası.

Properties
— High tinting strength since concentrated.
— Gives standard color guarantee since color strength is strictly controlled.
— Designed to cover full color space with only 16 colorants.
— Lead free and environmentally friendly.

Safety Advices
— S2 Keep out of the reach of children.
— S24/25 Avoid contact with skin and eyes.
— S46 If swallowed, seek medical advice.

Storage
— Store between 5°C-35°C in its unopened bottles.

Renk Bankası
Kale RENK BANKASI allows the preparation of the same color even after years without any difference in shade. This system provides retailers to offer thousands of color alternatives to their customers, much less stockouts as the number of inventory items is greatly reduced, better distribution economics due to reduced number of emergency deliveries and easier planning of distribution as the amount of stock keeping units is smaller, reduced inventory and faster turnover of paints, instead of ready-mix color shades; only 3 base paints and 16 colorants are held stock, more than 50% inventory savings.

General Data
- Color: 16 colors
- Composition: Concentrated pigment paste
82  Kale Lüks Sentetik Boya
83  Kale Sentetik Boya
84  Kale Sentetik Astar
85  Kale Antipas
86  Kale Woodline Vernikli Ahşap Renklendirici
87  Kale Woodline Ahşap Renklendirici
88  Kale Yat Vernik
89  Kale Cam Cila
5850 Kale Lüks Sentetik Boya
Lux Synthetic Glossy Interior and Exterior Paint

Description
Alkyd resin based, lead-free, top coat luxury glossy paint.

Fields of Application
On interior and exterior surfaces of wooden, iron-steel, concrete, exposed concrete, plaster, cement board, plasterboard, OSB, MDF and on furniture with a suitable primer.

Properties
— Superior hiding power
— Has high and permanent glossiness
— Perfectly adheres to surface; scrub-resistant.
— Lead-free.
— Tintable by RENK USTASI.

Application
— The surfaces, on which the product will be applied, must be cleaned off from grease, dirt, rust and swelled paint residues.
— Previously painted mineral and wooden surfaces must be rubbed with emery, must be cleaned and primed with Kale SENTETİK ASTAR. The rust on old painted metal surfaces must be removed by emery.
— If there is no rust, the surface must be primed with Kale SENTETİK ASTAR, then rubbed with emery and painted with Kale LÜKS SENTETİK BOYA.
— The wooden surfaces, which will be painted for the first time, should be saturated with wood impregnate at first. Kale ANTIPAS must be applied in two coats on the iron-steel surfaces which will be newly painted.
— Kale LÜKS SENTETİK BOYA should be thinned with synthetic thinner at 5-10% ratio and mixed well, to be applied with brush, rolle or spraying system.
— The prepared surface should be rubbed with emery and Kale LÜKS SENTETİK BOYA should be applied after 24 hours. There must be 1 day between the coats in two-coat applications.
— In airless spraying, pressure must be 120-140 bars, nozzle angle must be 50°, nozzle measurement must be 0.013 inch.
— Clean the tools with synthetic thinner immediately after the application.
— Ambient temperature must be between 5°C-30°C during the application.

Safety Advices
— R 10: Flammable.
— R 65: Harmful: may cause lung damage if swallowed.
— S 1/2: Keep locked up and out of the reach of children.
— S 13: Keep away from food, drink and animal foodstuffs.
— S 20: When using, do not eat or drink.
— S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
— S 46: If swallowed, seek medical advice immediately and show this container or label.
— S 53: Avoid exposure. Obtain special instructions before use.
— S 56: Dispose of this material and its container at hazardous or special waste collection point.

Storage
— The product can be stored in its unopened original package in cool and dry environment at least 1 year. When a certain amount remains in the package, in order to store the remainder paint in the safest way, thinner must be added until the surface of the paint is completely covered, or the package must be firmly closed and turned 180° for 1-2 times.

Packaging
— 0,75 lt, 2,5 lt, 3,75 lt and 15 lt metal pails.
— 0,75 lt packages are packed together in 6s, 2,5 lt and 3,75 lt packages are packed together in 2s.

Technical Properties
(at 20°C and 65% RH)

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
<td>White, colors in color card and thousands of colors possible by Renk Ustasi</td>
</tr>
<tr>
<td>Composition</td>
<td>Alkyd resin based</td>
</tr>
<tr>
<td>Thinner</td>
<td>Synthetic thinner</td>
</tr>
<tr>
<td>Density</td>
<td>Approx. 1.21 g/cm³</td>
</tr>
<tr>
<td>Flash Point</td>
<td>36°C</td>
</tr>
<tr>
<td>Glossiness (60°)</td>
<td>&gt;88</td>
</tr>
</tbody>
</table>

Application Data

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+30°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>For 2nd coat application 24 hours</td>
</tr>
<tr>
<td></td>
<td>Touch dry                  3-4 hours</td>
</tr>
<tr>
<td></td>
<td>Dry through                12 hours</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the type and absorbency of the surface, 18-20 m² of area can be painted in a single coat with 1 lt</td>
</tr>
</tbody>
</table>

Application Tools
— Brush, roller, airless spraying equipment

Lead - Free

Certificates of Quality: TS 39 (Type 1)
5851 Kale Sentetik Boya
Synthetic Glossy Interior and Exterior Paint

**Description**
Modified alkyd resin based, lead-free, top coat glossy synthetic paint.

**Fields of Application**
On interior and exterior surfaces of all kinds of woods, walls and metal surfaces with suitable primers.

**Properties**
- Superior hiding power.
- Has high and permanent glossiness.
- Perfectly adheres to surface; scrub-resistant.
- Tintable by RENK USTASI.

**Application**
- The surfaces, on which the product will be applied, must be cleaned off from all kinds of dirtiness like grease and rust. Surfaces must be durable, dry, clean and in a form that can carry the paint.
- Old painted surfaces must be rubbed with emery. Then, primer and top coat paint must be applied.
- Kale SENTETIK BOYA should be applied with brush or roll in two coats by thinning it with a synthetic thinner at 10% ratio. In applications with spraying, apply the product in one coat by thinning it with a synthetic thinner at 10-15% ratio.
- There must be 1 day between the coats in two-coat applications.
- Clean the tools with synthetic thinner immediately after the application.
- Ambient temperature must be between 5°C-30°C during the application.

**Technical Properties**
(at 20°C and 65% RH)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
<td>White, colors in color card and thousands of colors possible by RENK USTASI.</td>
</tr>
<tr>
<td>Composition</td>
<td>Modified alkyd resin based</td>
</tr>
<tr>
<td>Thinner</td>
<td>Synthetic thinner</td>
</tr>
<tr>
<td>Density</td>
<td>Approx. 1.21 g/cm³</td>
</tr>
<tr>
<td>Flash Point</td>
<td>36°C</td>
</tr>
<tr>
<td>Glossiness (60°)</td>
<td>&gt; 85</td>
</tr>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+30°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>For 2nd coat application 24 hours</td>
</tr>
<tr>
<td></td>
<td>Touch dry</td>
</tr>
<tr>
<td></td>
<td>Dry through</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the type and absorbency of the surface, 16-20 m² of area can be painted in a single coat with 1 lt.</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Brush, roller, airless spraying equipment</td>
</tr>
</tbody>
</table>

**Safety Advices**
- R 10: Flammable.
- R 65: Harmful: may cause lung damage if swallowed.
- S 1/2: Keep locked up and out of the reach of children.
- S 13: Keep away from food, drink and animal foodstuffs.
- S 20: When using, do not eat or drink.
- S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 46: If swallowed, seek medical advice immediately and show this container or label.
- S 53: Avoid exposure. Obtain special instructions before use.
- S 56: Dispose of this material and its container at hazardous or special waste collection point.

**Storage**
The product can be stored in its unopened original package in cool and dry environment at least 1 year. When a certain amount remains in the package, in order to store the remainder paint, thinner must be added until the surface of the paint is completely covered, or the package must be firmly closed and turned 180° for 1-2 times.

**Packaging**
- 0,25 lt, 0,75 lt, 2,5 lt and 15 lt metal pails.
- 0,25 lt and 0,75 lt packages are packed together in 6s, 2,5 lt packages are packed together in 2s.
Kale Synthetic Based Products

5842 Kale Sentetik Astar
Synthetic Paint Primer

Description
Synthetic alkyd resin based, lead-free primer with high hiding ability.

Fields of Application
On interior and exterior surfaces of all kinds of woods, walls and metal surfaces before the top coat paint application.

Properties
— Superior hiding power.
— Perfectly adheres to surface.
— Reinforces the substrates and forms a perfect surface for topcoat application.
— Lead-free.

Application
— The surfaces, on which Kale SENTETİK ASTAR will be applied, must be cleaned off from dirtiness like grease, rust and swelled residues.
— The wooden surfaces, which will be painted for the first time, should be saturated with wood impregnate at first. Metal surfaces must be primed in one coat after Kale ANTİPAS application.
— Kale SENTETİK ASTAR should be applied in one coat after thinning with synthetic thinner at 10% ratio for application with roll or brush; and at 10-20% ratio for application with spraying system.
— The prepared surfaces should be rubbed with emery and Kale LÜKS SENTETİK BOYA or Kale SENTETİK BOYA should be applied as top coat.
— Clean the tools with synthetic thinner immediately after the application.
— Ambient temperature must be between 5°C-30°C during the application.

Safety Advises
— R 10: Flammable.
— R 65: Harmful: may cause lung damage if swallowed.
— S 1/2: Keep locked up and out of the reach of children.
— S 13: Keep away from food, drink and animal foodstuffs.
— S 20: When using, do not eat or drink.
— S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
— S 46: If swallowed, seek medical advice immediately and show this container or label.
— S 53: Avoid exposure. Obtain special instructions before use.
— S 56: Dispose of this material and its container at hazardous or special waste collection point.

Storage
— The product can be stored in its unopened original package in cool and dry environment at least 1 year. When a certain amount remains in the package, in order to store the remainder paint in the safest way, thinner must be added until the surface of the paint is completely covered, or the package must be firmly closed and turned 180° for 1-2 times.

Packaging
— 0,75 lt, 2,5 lt and 20 kg metal pails.
— 0,75 lt packages are packed together in 6s and 2,5 lt packages are packed together in 4s.

Technical Properties (at 20°C and 65% RH)

| General Data |
| White, 32 colors in color card and thousands of colors possible by Renk Ustası |
| Synthetic alkyd resin based |
| Synthetic thinner |
| Approx. 1,60 g/cm³ |
| 36°C |
| Flash Point |
| 36°C |
| Application Temperature Range |
| (+5°C) - (+30°C) |
| Application Tools |
| Brush, roller, airless spraying equipment |
| Certificates of Quality: TS 11651 |
| Lead - Free |
| (at 45±10 μm dry film thickness) |
| Depending on the type and absorbency of the surface, 12-18 m² of area can be primed in a single coat with 1 lt. |
| Consumption |
| 24 hours |
| 2 hours |
| 8-10 hours |
| Drying Time |
| For top coat application |
| Touch dry |
| Dry through |
| Lower temperatures and/or higher relative humidity will lengthen the drying process. |
| Application Data |
| (at 45±10 μm dry film thickness) |
| Depending on the type and absorbency of the surface, 12-18 m² of area can be primed in a single coat with 1 lt. |
| Consumption |
| 24 hours |
| 2 hours |
| 8-10 hours |
| Drying Time |
| For top coat application |
| Touch dry |
| Dry through |
| Lower temperatures and/or higher relative humidity will lengthen the drying process. |
| Application Data |
| (at 45±10 μm dry film thickness) |
| Depending on the type and absorbency of the surface, 12-18 m² of area can be primed in a single coat with 1 lt. |
| Consumption |
| 24 hours |
| 2 hours |
| 8-10 hours |
| Drying Time |
| For top coat application |
| Touch dry |
| Dry through |
| Lower temperatures and/or higher relative humidity will lengthen the drying process. |
| Application Data |
| (at 45±10 μm dry film thickness) |
| Depending on the type and absorbency of the surface, 12-18 m² of area can be primed in a single coat with 1 lt. |
| Consumption |
| 24 hours |
| 2 hours |
| 8-10 hours |
| Drying Time |
| For top coat application |
| Touch dry |
| Dry through |
| Lower temperatures and/or higher relative humidity will lengthen the drying process. |
| Application Data |
| (at 45±10 μm dry film thickness) |
| Depending on the type and absorbency of the surface, 12-18 m² of area can be primed in a single coat with 1 lt. |
| Consumption |
| 24 hours |
| 2 hours |
| 8-10 hours |
| Drying Time |
| For top coat application |
| Touch dry |
| Dry through |
| Lower temperatures and/or higher relative humidity will lengthen the drying process. |
| Application Data |
| (at 45±10 μm dry film thickness) |
| Depending on the type and absorbency of the surface, 12-18 m² of area can be primed in a single coat with 1 lt. |
| Consumption |
| 24 hours |
| 2 hours |
| 8-10 hours |
| Drying Time |
| For top coat application |
| Touch dry |
| Dry through |
| Lower temperatures and/or higher relative humidity will lengthen the drying process. |
| Application Data |
| (at 45±10 μm dry film thickness) |
| Depending on the type and absorbency of the surface, 12-18 m² of area can be primed in a single coat with 1 lt. |
| Consumption |
| 24 hours |
| 2 hours |
| 8-10 hours |
| Drying Time |
| For top coat application |
| Touch dry |
| Dry through |
| Lower temperatures and/or higher relative humidity will lengthen the drying process. |
| Application Data |
| (at 45±10 μm dry film thickness) |
| Depending on the type and absorbency of the surface, 12-18 m² of area can be primed in a single coat with 1 lt. |
| Consumption |
| 24 hours |
| 2 hours |
| 8-10 hours |
| Drying Time |
| For top coat application |
| Touch dry |
| Dry through |
| Lower temperatures and/or higher relative humidity will lengthen the drying process. |
| Application Data |
| (at 45±10 μm dry film thickness) |
| Depending on the type and absorbency of the surface, 12-18 m² of area can be primed in a single coat with 1 lt. |
| Consumption |
| 24 hours |
| 2 hours |
| 8-10 hours |
| Drying Time |
| For top coat application |
| Touch dry |
| Dry through |
| Lower temperatures and/or higher relative humidity will lengthen the drying process. |
| Application Data |
| (at 45±10 μm dry film thickness) |
| Depending on the type and absorbency of the surface, 12-18 m² of area can be primed in a single coat with 1 lt. |
| Consumption |
| 24 hours |
| 2 hours |
| 8-10 hours |
| Drying Time |
| For top coat application |
| Touch dry |
| Dry through |
| Lower temperatures and/or higher relative humidity will lengthen the drying process. |
5843 Kale Antipas
Anticorrosive Synthetic Primer

**Description**
Antirust, lead-free, anticorrosive, lead-free surface primer with synthetic alkyd resin combination.

**Fields of Application**
On interior and exterior iron surfaces.

**Properties**
- Superior hiding power.
- It protects the iron surfaces with the special combination of pigments in alkyd and antirust anticorrosive form.
- Perfectly adheres to surface.
- Reinforces the substrates and forms a perfect surface for topcoat application.
- Lead-free.

**Application**
- The surfaces, on which the product will be applied, must be cleaned off from all kinds of dirtiness like grease and rust.
- The surfaces, which will be painted for the first time, must be rubbed with emery thoroughly. Grease and dirtiness must be cleaned with oakum which has been immersed into synthetic thinner. Rusty surfaces must be cleaned with brush and scraper.
- Kale ANTIPAS should be applied in two coats after thinning with synthetic thinner at 5-10% ratio for application with brush or roller; and it should be applied in one coat after thinning with synthetic thinner at 10-15% ratio for application with spraying system.
- Clean the tools with synthetic thinner immediately after the application.
- Ambient temperature must be between 5°C-30°C during the application.

**Safety Advices**
- R 10: Flammable.
- R 65: Harmful: may cause lung damage if swallowed.
- S 1/2: Keep locked up and out of the reach of children.
- S 13: Keep away from food, drink and animal foodstuffs.
- S 20: When using, do not eat or drink.
- S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 46: If swallowed, seek medical advice immediately and show this container or label.
- S 53: Avoid exposure. Obtain special instructions before use.
- S 56: Dispose of this material and its container at hazardous or special waste collection point.

**Technical Properties**
(at 20°C and 65% RH)

**General Data**
- Colors: Gray
- Composition: Synthetic alkyd resin based
- Thinner: Synthetic thinner
- Density: Approx. 1.35 g/cm³
- Flash Point: 36°C

**Application Data**
- Application Temperature Range: (+5°C) - (+30°C)
- Drying Time:
  - For top coat application: 24 hours
  - Touch dry: 1-2 hours
- Consumption:
  - Depending on the type and absorbency of the surface, 12 m² of area can be primed in a single coat with 1 lt.
- Application Tools: Brush, roller, airless spraying equipment

**Storage**
The product can be stored in its unopened original package in cool and dry environment at least 1 year. When a certain amount remains in the package, in order to store the remainder paint in the safest way, thinner must be added until the surface of the paint is completely covered, or the package must be firmly closed and turned 180° for 1-2 times.

**Packaging**
- 0.75 lt, 2.5 lt, and 20 kg metal pails.
- 0.75 lt packages are packed together in 6s and 2.5 lt packages are packed together in 4s.
Kale — Synthetic Based Products

5841 Kale Woodline Vernikli
Ahşap Renklendirici
Decorative Synthetic Varnished Wood Stain

Description
Modified alkyd resin based, lead-free ready-to-use matt decorative wood stain with high penetration strength.

Fields of Application
On wooden houses, windows, balconies, outer and inner doors, wooden sections of the basement floors, wooden ceilings, wainscots, columns and girders, furniture components and similar wooden surfaces. It must not be used on the beehives and wooden surfaces of the saunas.

Properties
— Penetrates into the wood.
— Provides against the insects a perfect shield formation that damage the wood.
— Resistant against abrasive UV rays; its colors do not fade and it does not conceal the natural appearance of the wood.
— Lengthens the life of the product on which it is applied.
— Has short drying duration, with humidity adjusting and perfect workability ability.
— Tintable by RENK USTASI.

Application
— The surfaces, on which the product will be applied, must be cleaned off from all kinds of dirtiness like grease and rust.
— Old painted surfaces must completely be cleaned.
— Dirtiness like resin and emery powder must be removed from the wooden surfaces which will be newly painted. Impregnated material must necessarily be applied beforehand in order to ensure a perfect protection in the raw material which will be newly painted.
— Pay attention that the humidity of the wooden surface on which the product will be applied is lower than 18%.
— It is recommended mixing Kale WOODLINE VERNIKLI AHŞAP RENKLENDİRİCİ before the application.
— Kale WOODLINE VERNIKLI AHŞAP RENKLENDİRİCİ must be applied on the surface in two coats with brush, roll or paint gun.
— Clean the tools with synthetic thinner immediately after the application.
— Ambient temperature must be between 5°C-30°C during the application.

Technical Properties
(at 20°C and 65% RH)

<table>
<thead>
<tr>
<th>General Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
</tr>
<tr>
<td>Composition</td>
</tr>
<tr>
<td>Thinner</td>
</tr>
<tr>
<td>Density</td>
</tr>
<tr>
<td>Flash Point</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Temperature Range</td>
</tr>
<tr>
<td>Drying Time</td>
</tr>
<tr>
<td>Consumption</td>
</tr>
<tr>
<td>Application Tools</td>
</tr>
</tbody>
</table>

Safety Advises
— R 10: Flammable.
— R 65: Harmful: may cause lung damage if swallowed.
— S 1/2: Keep locked up and out of the reach of children.
— S 13: Keep away from food, drink and animal foodstuffs.
— S 20: When using, do not eat or drink.
— S 45: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).
— S 46: If swallowed, seek medical advice immediately and show this container or label.
— S 53: Avoid exposure. Obtain special instructions before use.
— S 56: Dispose of this material and its container at hazardous or special waste collection point.

Storage
— The product can be stored in its unopened package at room temperature for at least 1 year.

Packaging
— 0,75 lt, 2,5 lt and 15 lt metal pails.
— 0,75 lt packages are packed together in 6s and 2,5 lt packages are packed together in 2s.

Lead - Free
5840 Kale Woodline Ahşap Renklendirici
Decorative Synthetic Wood Stain

Description
Modified alkyd resin based, lead-free, ready-to-use matt decorative wood stain with high penetration strength.

Fields of Application
On wooden houses, windows, balconies, outer and inner doors, wooden sections of the basement floors, wooden ceilings, wainscots, columns and girders, furniture components and similar wooden surfaces.

Properties
— Penetrates into the wood.
— Provides a perfect shield against the insects that damage the wood and change the color of the wood.
— Resistant against abrasive UV rays; its colors do not fade and it does not conceal the natural appearance of the wood.
— Lengthens the life of the product on which it is applied.
— Does not only increase the durability of the wood, but also forms a surface providing a very good adherence for the varnish or the paint that will be applied on it.
— Has short drying duration, with humidity adjusting and perfect workability ability.
— Tintable by RENK USTASI.

Application
— The surfaces, on which the product will be applied, must be cleaned off from all kinds of dirtiness like grease and rust.
— Old painted surfaces must completely be cleaned.
— Dirtiness like resin and emery powder must be removed from the wooden surfaces which will be newly painted. Impregnated material must necessarily be applied beforehand in order to ensure a perfect protection in the raw material which will be newly painted.
— Pay attention that the humidity of the wooden surface on which the product will be applied is lower than 18%.
— It is recommended mixing Kale WOODLINE AHŞAP RENKLENDİRİCİ before the application.
— Kale Woodline Ahşap Renklendirici must be applied on the surface in two coats with brush, roll or paint gun.
— Clean the tools with synthetic thinner immediately after the application.
— Ambient temperature must be between 5°C-30°C during the application.
— Lower temperatures and/or higher relative humidity will lengthen the drying process.

Consumption
Depending on the type and absorbency of the surface, 8-12 m² of area can be primed in a single coat with 1 lt.

Application Tools
Brush, roller, airless spraying equipment

Technical Properties
(at 20°C and 65% RH)

<table>
<thead>
<tr>
<th>General Data</th>
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</thead>
<tbody>
<tr>
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<tr>
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</tr>
<tr>
<td>Density</td>
</tr>
<tr>
<td>Flash Point</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Temperature Range</td>
</tr>
<tr>
<td>Drying Time</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Safety Advices</th>
</tr>
</thead>
<tbody>
<tr>
<td>— R 10: Flammable.</td>
</tr>
<tr>
<td>— R 65: Harmful: may cause lung damage if swallowed.</td>
</tr>
<tr>
<td>— R 66: Repeated exposure may cause skin dryness or cracking.</td>
</tr>
<tr>
<td>— S 2: Keep out of the reach of children.</td>
</tr>
<tr>
<td>— S 13: Keep away from food, drink and animal foodstuffs.</td>
</tr>
<tr>
<td>— S 23: Do not breathe gas/lumes/vapor/spray (appropriate wording to be specified by the manufacturer).</td>
</tr>
<tr>
<td>— S 36: Wear suitable protective clothing.</td>
</tr>
<tr>
<td>— S 46: If swallowed, seek medical advice immediately and show this container or label.</td>
</tr>
<tr>
<td>— S 56: Dispose of this material and its container at hazardous or special waste collection point.</td>
</tr>
</tbody>
</table>

Storage
— The product can be stored in its unopened package at room temperature for at least 1 year.

Packaging
— 0,75 lt, 2,5 lt and 15 lt metal pails.
— 0,75 lt packages are packed together in 6s and 2,5 lt packages are packed together in 2s.
Kale — Synthetic Based Products

5844 Kale Yat Vernik
Glossy Yacht Varnish

Description
Urethane alkyd resin combination based, lead-free yacht varnish in high glossiness which forms a perfect top surface.

Fields of Application
Can be used for decorative purposes as a protector on the wooden surfaces of the sea vehicles and on all kinds of interior and exterior wooden surfaces of the buildings.

Properties
— High glossiness.
— Transparent.
— Lead-free.
— Does not conceal the natural appearance of the wood.
— UV resistant.
— Perfectly protects the wood against changable climate conditions.

Application
— The wooden surfaces, on which Kale YAT VERNİK will be applied, must be cleaned off from dirtiness like grease and swelled residues.
— In order for wood to be protected against mold and fungus over years, impregnated wood is recommended to be used. If this is not possible, it is recommended using practical impregnated material.
— In applications with spraying system, product should be thinned with 10-20% of synthetic thinner. In applications with brush or roller the product thinned with 5-10% of synthetic thinner. The surfaces should be rubbed with emery between the coats and Kale YAT VERNİK should be applied in 3 coats by waiting for one day for each coat.
— Clean the tools with synthetic thinner immediately after the application.
— Ambient temperature must be between 5°C-30°C during the application.

Safety Advices
— R 10: Flammable.
— R 65: Harmful: may cause lung damage if swallowed.
— S 1/2: Keep locked up and out of the reach of children.
— S 13: Keep away from food, drink and animal foodstuffs.
— S 20: When using, do not eat or drink.
— S 45: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)
— S 46: If swallowed, seek medical advice immediately and show this container or label.
— S 53: Avoid exposure. Obtain special instructions before use.
— S 56: Dispose of this material and its container at hazardous or special waste collection point.

Storage
— The product can be stored in its unopened package at room temperature for at least 1 year.

Packaging
— 0,75 lt, 2,5 lt and 12 kg metal pails.
— 0,75 lt packages are packed together in 6s and 2,5 lt packages are packed together in 4s.

Technical Properties
(At 20°C and 65% RH)

General Data
Colors
Composition
Thinner
Density
Flash Point

Application Data
Application Temperature Range
Drying Time
Consumption
Application Tools

Technical Properties

<table>
<thead>
<tr>
<th>Application Temperature Range</th>
<th>(+5°C) - (+30°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drying Time</td>
<td>For 2nd coat application 24 hours</td>
</tr>
<tr>
<td></td>
<td>Touch drying 2 hours</td>
</tr>
<tr>
<td></td>
<td>Dry through 24 hours</td>
</tr>
</tbody>
</table>

Lower temperatures and/or higher relative humidity will lengthen the drying process.

Consumption
Depending on the type and absorbency of the surface, 14-20 m² of area can be varnished in a single coat with 1 lt.

Application Tools
Brush, roller, airless spraying equipment

Lead - Free
5845 Kale Cam Cila
Single Component Glossy Parquet Varnish

Description
Single component, modified urethane alkyd based, lead-free parquet varnish.

Fields of Application
Can safely be used on interior façade wooden flooring, stairs and parquet surfaces that require durability.

Properties
— High and durable glossiness.
— Transparent.
— Lead-free.
— High chemical durability, resistant against abrasiveness of liquid cleaning materials.
— Does not conceal the natural appearance of the wood.

Application
— Kale CAM CİLA is applied on the prepared smooth surface in 2 coats or 3 coats if necessary. Kale CAM CİLA is recommended to be thinned with synthetic thinner at 25% ratio for the first coat applications and to be thinned with synthetic thinner at 10-15% ratio for the second coat applications and third coat applications if necessary. Application can be performed by brush, roller or spraying system. There must be at least 5-6 hours between the coats.
— Clean the tools with synthetic thinner immediately after the application.
— Ambient temperature must be between 5°C-30°C during the application.
— Kale CAM CİLA is applied on the prepared smooth surface in 2 coats or 3 coats if necessary. Kale CAM CİLA is recommended to be thinned with synthetic thinner at 25% ratio for the first coat applications and to be thinned with synthetic thinner at 10-15% ratio for the second coat applications and third coat applications if necessary. Application can be performed by brush, roller or spraying system. There must be at least 5-6 hours between the coats.
— Clean the tools with synthetic thinner immediately after the application.
— Ambient temperature must be between 5°C-30°C during the application.

Safety Advices
— R 10: Flammable.
— R 48/20: Harmful: danger of serious damage to health by prolonged exposure through inhalation.
— R 63: Possible risk of harm to the unborn child.
— R 65: Harmful: may cause lung damage if swallowed.
— S 1/2: Keep locked up and out of the reach of children.
— S 13: Keep away from food, drink and animal foodstuffs.

Storage
— The product can be stored in its unopened package at room temperature for at least 1 year.

Packaging
— 0,75 lt, 2,5 lt and 12 kg metal pails.
— 0,75 lt packages are packed together in 6s and 2,5 lt packages are packed together in 4s.

Technical Properties
(at 20°C and 65% RH)

<table>
<thead>
<tr>
<th>General Data</th>
<th>Transparent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colors</td>
<td>Transparent</td>
</tr>
<tr>
<td>Composition</td>
<td>Modified urethane alkyd based</td>
</tr>
<tr>
<td>Thinner</td>
<td>Synthetic thinner</td>
</tr>
<tr>
<td>Density</td>
<td>Approx. 0,92 g/cm³</td>
</tr>
<tr>
<td>Flash Point</td>
<td>36°C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (+30°C)</td>
</tr>
<tr>
<td>Drying Time</td>
<td>For 2nd coat application 5 – 6 hours</td>
</tr>
<tr>
<td></td>
<td>Anti-dust drying 2 – 3 hours</td>
</tr>
<tr>
<td></td>
<td>It is available for walking after 24 hours. It gains physical durability in 3-4 days.</td>
</tr>
<tr>
<td></td>
<td>Lower temperatures and/or higher relative humidity will lengthen the drying process.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Depending on the type and absorbency of the surface, 7-10 m² of area can be varnished in a single coat with 1 lt.</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Brush, roller, airless spraying equipment</td>
</tr>
</tbody>
</table>

Lead - Free
Thermal Insulation Systems

92  Thermal Insulation in Buildings / Benefits of Thermal Insulation
93  Thermal Insulation and Environment
94  Thermal Insulation and Energy Saving
95  Fire and Sound Insulation
96  Efficiency of the Thermal Insulation System on Buildings
97  Kale White EPS Thermal Insulation Board
98  Kale Carbon EPS Thermal Insulation Board
99  Kale Stone Wool Thermal Insulation Board
100 Foamtech
101 Mantotech
102 Kalestick
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108 Minart Silver
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110 Minart Dekor 300
111 Kale Thermal Insulation System Components
112 Kale Thermal Insulation System Accessories
113 Kale Thermal Insulation Components
114 Kale Thermal Insulation System Application
Thermal insulation is the process of reducing the heat transfer between the surfaces using special materials in order to prevent the cold air in the exterior environment from causing temperature loss in the interior environments in winter months, and hot air in the exterior environment from causing temperature increase in the interior environments in summer months.

In order to balance the temperature in our houses, we try to increase the temperature using fuels like natural gas and coal in winter, and decrease the temperature using air conditioners or similar cooling appliances in summer. We consume a certain amount of energy during all these heating and cooling processes. Unfortunately, more than half of the energy, which is used for heating purposes in buildings, is lost when there is no thermal insulation.

Thermal insulation is the heat loss that occurs in sections of buildings like columns, beams, walls and marble under windows. Thermal bridges existing in our buildings causes a significant amount of loss in the energy we spend by conducting heat transfer from exterior environment. Thermal insulation prevents heat transfer from exterior environment by eliminating thermal bridges, thus provides energy saving by allowing for the most efficient use of the energy we spend. Our world is facing global warming threat due to gas effect that emerges with the consumption of resources like petroleum and coal. Season changes are experienced as a result of that effect. Maximum energy efficiency is one of the issues on which the scientists study most against this phenomenon that threatens the future of humankind. Thermal Insulation not only is a precaution against global warming by providing more than 50 percent energy saving and reducing the consumption of the resources like petroleum and coal that are consumed for heating purposes but also contributes to the national economy and protection of the environment.

In other words, Thermal Insulation means providing maximum saving and comfort in buildings.

Benefits of Thermal Insulation

A thermal insulation that is performed in accordance with the “Regulation on Thermal Insulation in Buildings” issued by the Ministry of Public Works and Settlement provides 50% saving on the expenses made for heating and cooling purposes in buildings, and contributes to comfortable life with an efficient heating in winter and an efficient cooling in summer. It contributes to the combat against greenhouse effect, global warming and climate change by reducing the emission of carbon dioxide (CO2), sulfur dioxide (SO2) and other harmful gases to the atmosphere thanks to maximum benefit it provides in the use of energy.

It provides comfortable life in thermal insulated buildings by preventing the formation of humidity and mold.

Thermal insulation prevents corrosion (rusting) since no humidity will occur in thermal insulated buildings. Thus, it increases the earthquake safety by protecting the carrier elements of the building, and it prolongs the building life.

It contributes to the comfortable life and health of occupants in thermal insulated buildings since the heat distribution between the places will be homogenous.

Thermal insulation makes an important contribution to sound insulation since it absorbs the noise coming from the exterior environment.

Among the investments made on buildings, it can be asserted that Thermal Insulation is the one that pay off itself in the shortest time.
Protecting the environment by thermal insulation can be considered as leaving a liveable environment for future generations. We can list the comfort factors provided by Thermal Insulation as follows:

— It provides a healthy living environment by preventing formation of humidity, mold and fungus that affect life comfort in buildings,
— It provides protection of building’s load bearing elements against negative effects like corrosion, flaking and swelling by enveloping the building from the outside,
— Temperature difference between the environments in the building must be 3°C maximum. Thermal Insulation increases the environmental comfort by ensuring that heat in the building is distributed homogenously everywhere,
— It renders effective the physical and mental activities of the people living in the environment by ensuring the optimum use of the building and residences,
— It contributes to the national economy and family budget by energy saving.

Moreover, it starts a transformation process that is a plus value input in the lives of the building occupants. We can list the comfort factors provided by Thermal Insulation as follows:

— Temperature difference between the environments in the building must be 3°C maximum. Thermal Insulation increases the environmental comfort by ensuring that heat in the building is distributed homogenously everywhere,
— It renders effective the physical and mental activities of the people living in the environment by ensuring the optimum use of the building and residences,
— It contributes to the national economy and family budget by energy saving.

Protecting the environment by thermal insulation can be considered as leaving a liveable environment for future generations. The most basic indication of protecting our natural environment is to take effective measures against global warming caused by greenhouse effect, and prevent pollution in the nature and atmosphere.

Greenhouse gases, which come off as a result of using fossil fuels for heating and cooling purposes, cause temperature increase in our world. Carbon dioxide (CO2) is the most polluting gas in the atmosphere. The increasing amount of CO2 in the atmosphere triggers the global warming. Potential threats, which will be faced by humankind due to climate changes caused by the global warming, can be listed as follows:

— Threat against the future of animal and plant species due to the fact that disturbed natural balance causes great destruction in the ecological system,
— Mass famine and epidemics with the fact that drought and desertification increasingly have effects on larger areas,
— Sulfur dioxide (SO2) gas causes a significant destruction on forestlands and acid rains by combining with water vapor.

Thermal insulation, which is performed in accordance with the related rules, is one of the most effective tools in combating against greenhouses gases like carbon dioxide and sulfur dioxide that have the most destructive effect on the nature.
Turkey enjoys all four seasons due to its climate and geographical position. While this gift of nature brings various benefits, it also creates an increase in energy consumption and also in heating costs in winter, and cooling costs in summer. While energy sources are diminishing day by day all around the world, consumption need grows much bigger.

In buildings, 50% of heat loss occurs in exterior walls, 25% in ceilings, 20% in windows and doors, 10% in ground floor and foundation walls. Energy saving gains a particular importance under these conditions. Thermal Insulation stands out as one of the most successful energy saving tools apart from its other benefits. Development of saving awareness and saving skill has become a necessity for all economies as well as families in view of the increasing costs. Therefore, Regulation on Energy Performance in Buildings was put into practice, and implementation of forming Energy Identity in Buildings started.

Thermal bridges, which cause heat loss, are completely removed since thermally insulated buildings are insulated all around from the exterior environment. Energy consumed for heating and cooling is utilized in the most effective way since heat exchange with the exterior air is prevented. Energy saving provided by Thermal Insulation made possible to use energy and sources more effectively by decreasing your heating and cooling expenses 50 percent.
Fire Insulation

The fact that fire safety holds a vital importance in buildings is a reality known by everyone. However, it is a matter of discussion how well the fire insulation is performed compliant with this reality. Insurance companies check whether or not a building has fire insulation when calculating the premium payments for the building. Fire insulation must be performed using Class A1 fireproof materials that prevent flames from spreading during fire and that are compliant with EN 13501-1 standard.

Melting point of Stone Wool is over 1000°C. Therefore, Stone Wool is included in the category of fireproof construction materials in accordance with the construction materials standards. Stone Wool is classified as Class A1 pursuant to ISO 1182, which is the highest fire resistance category, thanks to its perfect fire resistance and high heat resistance.

Stone Wool stands out as a unique material in thermal and sound insulation as well as being a superior construction material with perfect fire resistance.

Sound Insulation

Today, noise is an important environmental pollution component that causes physiological and psychological disorders. It is everyone’s right to rest in home environment away from the exterior noise, and rejuvenate both physically and mentally. Moreover, it is a known fact that working under minimum noise in offices and workplaces positively affects the performance of all employees. Exposure to excessive noise causes disturbances like angeriness, perception loss, ineffectiveness and hearing loss.

The precondition of protection against the negative effects of noise is to have sound insulation. Sound insulation must be performed compliant with the rules using correct materials. Kale Stone Wool products provide excellent sound insulation thanks to their open porosity, sound absorbance and acoustic feature. Kale Stone Wool’s short and intermeshing fibrous texture is the guarantee for the most successful sound insulation as well as excellent thermal insulation. Kale Stone Wool products provide healthful spaces by insulating them from the negative effects of noise pollution.
Efficiency of the Thermal Insulation System on Buildings

Kale Thermal Insulation Boards (Stone Wool - EPS), Kale Mantotech and Kale Foamtech Thermal Insulation Board Adhesive Mortars; Kale Mantoplast and Kale Foamplast Thermal Insulation Board Plaster Mortar; Kale Mantoplast and Kale Foamplast Thermal Insulation Board Adhesive and Plaster Mortars; Kale Mantomix Adhesive and Plaster Mortar, Kale Mantastone Stone Wool Adhesive and Plaster Mortar; Kale Reinforcement Mesh, Kale Anchor and Kale Meshed PVC Corner Profile manufactured by Kalekim are collectively put on market as package system components under the Kale Thermal Insulation Systems brand. Kale brand Exterior Facade Plaster and Paints, which set the fashion of the exterior facades on the topcoat coatings, are included as the system components in the package system.

The performance of the system as a whole is important in thermal insulation. Moreover, components, which constitute the system, must have CE certificates and comply with the Construction Materials Regulation. It is only when each system component meets the quality criteria and complies with the regulations that success can be achieved in the performance of the entire thermal insulation system.

Kale brand exterior facade paints and decorative ready mixed plasters, which are used in the Thermal Insulation Systems, do not allow water into the system thanks to their silicone structure. Furthermore, all our topcoat coatings, which we recommend for Thermal Insulation Systems, allow the system to breathe and provide full protection against humidity thanks to their water-based feature.

One of the most important things for a successful Thermal Insulation application is that the application must be performed by preferring a package system. All products offered with Thermal Insulation Boards in Kale Thermal Insulation System not only have the quality and assurance of Kale brand, but also are the outcome of Kalekim’s 41-year experience in the sector. Kale Thermal Insulation System components guarantee the system success by offering together the harmony, quality and assurance.

Success of Thermal Insulation System is also directly related with the competence and mastery of the team that performs the application. We recommend you to prefer our expert masters, who took their licenses approved by the Ministry of National Education after successfully completing Kalekim Master Orientation and Improvement Course, or to request expert masters from Kalekim’s Familiar Master Recommendation System.

For detailed information and Familiar Master requests, call our Call Center on 444 5253.
Kale White EPS Thermal Insulation Board

Description
Kale White EPS thermal insulation board is a white EPS Thermal Insulation Board that is manufactured out of Expanded Polystyrene.

Fields of Application
Thermal insulation on exterior and interior walls of buildings.

Properties
— Dry and still air is trapped within the innumerable number of small closed porous cells in its structure (3-6 billions depending on EPS density in 1 m²). The material is very light as 98% of it is air, and it doesn’t bring additional loads to structures.
— Light and easy-to-apply.
— Environment-friendly. 100% recyclable and no polluting waste.
— Fixed thickness, doesn’t get thicker over time.
— Maintains its insulation property.
— Infinite lasting.

Storage
— Protect from water and sunlight when storing outdoors.
— Don’t expose to heat.
— Stock in an inclined way to prevent accumulation and penetration of rainwater.

Technical Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>TS EN 13163</td>
</tr>
<tr>
<td>Thermal conductivity value</td>
<td>≤ 0,038 W/mK</td>
</tr>
<tr>
<td>Fire resistance</td>
<td>According to EN 13501-1 Class E</td>
</tr>
<tr>
<td>Density</td>
<td>16 kg/m³</td>
</tr>
<tr>
<td>Dimensional consistency</td>
<td>± 0.2 % DS (N) 2</td>
</tr>
<tr>
<td>Compression resistance (min,) (10% deformation)</td>
<td>CS (10) 60</td>
</tr>
<tr>
<td>Tensile strength perpendicular to the surface</td>
<td>TR100</td>
</tr>
<tr>
<td>Long term water absorption under total immersion</td>
<td>WL(T) 5</td>
</tr>
<tr>
<td>Vapour diffusion resistance coefficient (µ)</td>
<td>20-40</td>
</tr>
<tr>
<td>Flexural Strength</td>
<td>≥ 115 kPa</td>
</tr>
</tbody>
</table>

Dimensions

<table>
<thead>
<tr>
<th>Length</th>
<th>1,000 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td></td>
</tr>
<tr>
<td>Thickness</td>
<td>20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120 mm</td>
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</tbody>
</table>

Packaging

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Surface Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 cm</td>
<td>12.5 m²</td>
</tr>
<tr>
<td>3 cm</td>
<td>8 m²</td>
</tr>
<tr>
<td>4 cm</td>
<td>6 m²</td>
</tr>
<tr>
<td>5 cm</td>
<td>5 m²</td>
</tr>
<tr>
<td>6 cm</td>
<td>4 m²</td>
</tr>
<tr>
<td>7 cm</td>
<td>3.5 m²</td>
</tr>
<tr>
<td>8 cm</td>
<td>3 m²</td>
</tr>
<tr>
<td>10 cm</td>
<td>2.5 m²</td>
</tr>
<tr>
<td>12 cm</td>
<td>2 m²</td>
</tr>
<tr>
<td>14 cm</td>
<td>1.5 m²</td>
</tr>
</tbody>
</table>
Kale Carbon EPS Thermal Insulation Board

Description
Kale Carbon EPS thermal insulation board is a gray EPS Thermal Insulation Board that is manufactured out of Expanded Polystyrene.

Fields of Application
Thermal insulation on exterior and interior walls of buildings.

Properties
— Due to its graphite content, prevents thermal energy radiation. Therefore, it provides better thermal insulation compared to EPS Thermal Insulation Boards.
— Dry and still air is trapped within the innumerable number of small closed porous cells in its structure (3-6 billions depending on EPS density in 1 m²). The material is very light as 98% of it is air, and it doesn’t bring additional loads to structures.
— Light, easy-to-apply and easy-to-handle.
— Environment-friendly. 100% recyclable and no polluting waste.
— Useable in interior and exterior walls.
— Fixed thickness, doesn’t get thicker over time.
— Maintains its insulation property.
— Infinite lasting.

Storage
— Protect from water and sunlight when storing outdoors.
— Don’t expose to heat.
— Stock in an inclined way to prevent accumulation and penetration of rainwater.

Specifications (23 °C and 50% Relative Humidity)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>TS EN 13163</td>
</tr>
<tr>
<td>Thermal conductivity value</td>
<td>≤ 0.032 W/mK</td>
</tr>
<tr>
<td>Fire resistance</td>
<td>EN 13501-1' e göre E</td>
</tr>
<tr>
<td>Density</td>
<td>16 kg/m³</td>
</tr>
<tr>
<td>Dimensional consistency</td>
<td>± % 0.2 DS (N) 2</td>
</tr>
<tr>
<td>Compression resistance (min.) (10% deformation)</td>
<td>CS (10) 60</td>
</tr>
<tr>
<td>Tensile strength perpendicular to the surface</td>
<td>TR100</td>
</tr>
<tr>
<td>Long term water absorption under total immersion</td>
<td>WL(T) 5</td>
</tr>
<tr>
<td>Vapour diffusion resistance coefficient (µ)</td>
<td>20-40</td>
</tr>
<tr>
<td>Flexural Strength</td>
<td>≥ 115 kPa</td>
</tr>
<tr>
<td>Dimensions</td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>1,000 mm</td>
</tr>
<tr>
<td>Width</td>
<td>500 mm</td>
</tr>
<tr>
<td>Thickness</td>
<td>20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120 mm</td>
</tr>
</tbody>
</table>

Packaging
- 2 cm package: 12.5 m²
- 3 cm package: 8 m²
- 4 cm package: 6 m²
- 5 cm package: 5 m²
- 6 cm package: 4 m²
- 7 cm package: 3.5 m²
- 8 cm package: 3 m²
- 10 cm package: 2.5 m²
- 12 cm package: 2 m²
- 14 cm package: 1.5 m²
**Kale Stone Wool Thermal Insulation Board**

**Description**
Kale Stone Wool thermal insulation board is built by melting locally procured basalt, an inorganic material, at 1350 °C -1400 °C and turning it into fibers to provide thermal, sound and fire insulation.

**Fields of Application**
Thermal insulation on exterior and interior walls of buildings.

**Properties**
- Contains no harmful gases.
- Maintains its insulation property.
- High vapor permeability; Buildings breathe preventing mold growth.
- 5-10 dB sound insulation due to its fibrous structure.
- No thermal expansion; dimensional stability.
- No heat build-up at assembly points; no loss of energy.
- Class A1 fireproof material.
- Water-repellent; repels water thanks to its fibrous nature and vaporizes the water inside due to its breathing nature.

**Storage**
- Protect from water and sunlight when storing outdoors.
- Stock in an inclined way to prevent accumulation and penetration of rainwater.
- Indoor storage recommended.

---

**Technical Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>EN 13162</td>
</tr>
<tr>
<td>Thermal conductivity value</td>
<td>≤ 0.035 W/mK</td>
</tr>
<tr>
<td>Fire resistance</td>
<td>EN 13501-1'e göre A1</td>
</tr>
<tr>
<td>Density</td>
<td>150 kg/m³</td>
</tr>
<tr>
<td>Thickness Tolerance Range</td>
<td>T4-3+5 mm</td>
</tr>
<tr>
<td>Compression resistance (min.) (10% deformation)</td>
<td>CS (10) 50</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td></td>
</tr>
<tr>
<td>Long term water absorption under total immersion</td>
<td>WL (P) ≤ 3 kg/m²</td>
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<tr>
<td>Vapour diffusion resistance coefficient (μ)</td>
<td>μ 1</td>
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<tr>
<td>Melting Point</td>
<td>T1 &gt; 1000°C</td>
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<tr>
<td>Dimensions</td>
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<tr>
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<td>600 mm</td>
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<td>Thickness</td>
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</tr>
<tr>
<td>30, 40, 50, 60, 80, 90, 100, 110, 120 mm</td>
<td></td>
</tr>
</tbody>
</table>

---

**Packaging**

<table>
<thead>
<tr>
<th>Size</th>
<th>Packaging Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 cm</td>
<td>5.76 m²</td>
</tr>
<tr>
<td>4 cm</td>
<td>4.32 m²</td>
</tr>
<tr>
<td>5 cm</td>
<td>3.60 m²</td>
</tr>
<tr>
<td>6 cm</td>
<td>2.88 m²</td>
</tr>
<tr>
<td>8 cm</td>
<td>2.16 m²</td>
</tr>
<tr>
<td>10 cm</td>
<td>1.44 m²</td>
</tr>
<tr>
<td>12 cm</td>
<td>1.44 m²</td>
</tr>
</tbody>
</table>

---

**TS EN 13162**
## 1057 Foamtech

**Insulation Board Adhesive**

### Description
Cement-based thermal insulation board adhesive mortar.

### Fields of Application
- Interior and exterior walls of all buildings;
- adhesion of XPS, EPS and Stone Wool thermal insulation boards.

### Properties
- Specially designed for Thermal Insulation Systems and offers high adhesion strength.
- Easy-to-apply.
- Extended open time.

### Application
- Substrates must be sound and cured. Remove any residue which may prevent adhesion. Use TAMIRART in case of uneven substrates to get a sound and flat surface.
- Pour 25 kg of powder into 5.5 - 6 lt of water slowly and mix to obtain a homogenous mortar free from lumps. Allow the mortar to stand for 5-10 minutes to mature and remix it before the application.
- If there are level differences on the surface, apply mortar to the whole back-side edges of the board, apply in dots at the middle section and press to the wall.
- If the surface is even, you can apply adhesive mortar by raking method.
- Check the level of boards with a float or a water gauge.
- Consume the prepared mortar within 3 hours. Dispose of the mortar which has exceeded its pot life.
- Fix mechanically after 24 hours at minimum depending on the environment temperature and surface properties.

### Warnings
- Since it contains cement, it is irritating to eyes, respiratory system and skin. For further information refer to Safety Data Sheet.

### Storage
- Foamtech Thermal Insulation Board Adhesive Mortar must be stored in a dry environment in 10 layer stacks maximum.

### Packaging
- 25 kg multi-ply paper bags.

---

### Technical Specifications (23°C and 50% Relative Humidity)

<table>
<thead>
<tr>
<th>General Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Grey powder</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Notched trowel, Trowel</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>12 months when stored in the original sealed packing in dry place</td>
</tr>
<tr>
<td>Packaging</td>
<td>25 kg multi-ply paper bags</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C)-(+35°C)</td>
</tr>
<tr>
<td>Mixing Ratio</td>
<td>25 kg/5.5-6 lt su</td>
</tr>
<tr>
<td>Pot Life</td>
<td>3 saat</td>
</tr>
<tr>
<td>Consumption</td>
<td>4-5 kg/m²</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Adhesion to the Thermal Insulation Board (EN 13494)</td>
<td>Min. 0.08 N/mm²</td>
</tr>
<tr>
<td>Water Absorption (EN 12808-5)</td>
<td>30 dk. max. 5 gr - 240 dk. max. 10 gr</td>
</tr>
<tr>
<td>Flexural Strength (EN 1015-11)</td>
<td>Min. 2 N/mm²</td>
</tr>
<tr>
<td>Compressive Strength (EN 1015-11)</td>
<td>Min. 8 N/mm²</td>
</tr>
<tr>
<td>Adhesion to the Lower Substrate (EN 1015-12)</td>
<td>Min. 0.9 N/mm²</td>
</tr>
</tbody>
</table>

---

TS 13069 June 2013
1169 Mantotech
Insulation Board Adhesive

Description
Cement-based thermal insulation board adhesive mortar.

Fields of Application
— Interior and exterior walls of all buildings; adhesion of XPS, EPS and Stone Wool thermal insulation boards.

Properties
— Specially designed for Thermal Insulation Systems and offers high adhesion strength.
— Easy-to-apply with its superior application and grounding properties.
— Extended open time.

Application
— Substrates must be sound and cured. Remove any residue which may prevent adhesion. Use TAMIRART in case of uneven substrates to get a sound and flat surface.
— Pour 25 kg of powder into 5,5 - 6 lt of water slowly and mix to obtain a homogenous mortar free from lumps. Allow the mortar to stand for 5-10 minutes to mature and remix it before the application.
— If there are level differences on the surface, apply mortar to the whole back-side edges of the board, apply in dots at the middle section and press to the wall.
— If the surface is even, you can apply adhesive mortar by raking method.
— Check the level of boards with a float or a water gauge.
— Consume the prepared mortar within 3 hours. Dispose of the mortar which has exceeded its pot life.

Warnings
— Since it contains cement, it is irritating to eyes, respiratory system and skin. For further information refer to Safety Data Sheet.

Storage
— Mantotech Thermal Insulation Board Adhesive Mortar must be stored in a dry environment in 10 layer stacks maximum.

Packaging
— 25 kg multi-ply paper bags.

Technical Specifications

<table>
<thead>
<tr>
<th>General Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
</tr>
<tr>
<td>Application Tools</td>
</tr>
<tr>
<td>Shelf Life</td>
</tr>
<tr>
<td>Packaging</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Temperature Range</td>
</tr>
<tr>
<td>Mixing Ratio</td>
</tr>
<tr>
<td>Pot Life</td>
</tr>
<tr>
<td>Consumption</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adhesion to the Thermal Insulation Board (EN 13494)</td>
</tr>
<tr>
<td>Water Absorption (EN 12808-5)</td>
</tr>
<tr>
<td>Flexural Strength (EN 1015-11)</td>
</tr>
<tr>
<td>Compressive Strength (EN 1015-11)</td>
</tr>
<tr>
<td>Adhesion to the Lower Substrate (EN 1015-12)</td>
</tr>
</tbody>
</table>

— Fix mechanically after 24 hours at minimum depending on the environment temperature and surface properties.
Description
— Ready-to-use, single component polyurethane spray adhesive that is cured with the humidity in the air and provides instant bonding.

Fields of Application
— It is used in the bonding of thermal insulation panels (XPS-EPS) and decorative purpose structural elements such as doorjambs.

Properties
— Resistant to all kinds of weather conditions.
— It is ready-to-use and quickly and easily applied.
— Provides instant bonding and is cured within 20 minutes.

Application
— Substrates must be sound and cured. Remove any residue which may prevent adhesion. Use TAMIRART in case of uneven substrates to get a sound and flat surface.
— Dry surfaces must be moistened prior to application.
— Prior to use the tube must be shaken well 30 times. The tins must be maintained in room temperature for 20 minutes prior to use.
— The cap on the tube is removed and the foam gun is twisted to fasten on KALESTICK.
— The foam output is adjusted to be 3 cm wide and applied, by squeezing the tube, in a strip on the edges of the panel leaving a margin of 2 cm on the sides. A strip of foam must also be applied in the middle of the panel, parallel to the framework on the edges.
— After the foam is squeezed and a waiting period of 3-4 minutes passes, the panel is placed on the area of application.
— Corrections can be made within 15-20 minutes of the application.

Warnings
— Avoid contact of the product with eyes and skin.
— Store at places children cannot reach.
— Use in well ventilated spaces.
— Do not inhale the gas vapor.
— Do not smoke when using the product.
— Please refer to the Safety Information Form for further detail.

Storage
— Must be stored in a cool and dry place.
— Opened packaging must be thoroughly cleaned before storage for future use. The product stored as such must be consumed in a short period of time.
— The product must be stored in temperatures ranging between +5 °C and +25 °C.

Packaging
— 750 ml spray tube.
— Packaging size: 750 ml x 12 units.

Technical Specifications
(23°C and 50% Relative Humidity)

<table>
<thead>
<tr>
<th>General Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Pink coloured foam</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>12 months when stored in the original sealed packing in dry place</td>
</tr>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C) - (-35°C)</td>
</tr>
<tr>
<td>Skin Formation</td>
<td>&lt; 10 min.</td>
</tr>
<tr>
<td>Cutting Time</td>
<td>&lt; 30 min.</td>
</tr>
<tr>
<td>Correction Time</td>
<td>15-20 min.</td>
</tr>
<tr>
<td>Consumption</td>
<td>15-175 ml/m²</td>
</tr>
<tr>
<td>Temperature Resistance</td>
<td>(-40°C) - (+100°C)</td>
</tr>
</tbody>
</table>
Bonding of Kale Thermal Insulation Panels by using Kalestick

Prior to squeezing out the foam, the tube must be shaken 30 times to achieve homogeneity. The tins of low temperature must be maintained in room temperature for 20 minutes prior to use. The cap on the tube is removed and the foam gun is twisted to fasten on KALESTICK. The foam output is adjusted to be 3 cm wide and applied, by squeezing the tube, in a strip on the edges of the panel leaving a margin of 2 cm on the sides. A strip of foam must also be applied in the middle of the panel, parallel to the framework on the edges. After the foam is squeezed and a waiting period of 3-4 minutes, the panel is placed on the area of application. Corrections can be made within 15-20 minutes of the application.

Polyurethane foam is applied on the edges of the panel to frame all sides and in the middle as a strip parallel to the sides.

After a waiting period of 3-4 minutes, the panel is placed on the area of application.

Corrections can be made within 15-20 minutes of the application.
4057 Foamplast

Insulation Panel Plaster

Description
Cement-based thermal insulation board plaster mortar.

Fields of Application
— Interior and exterior walls of all buildings; adhesion of XPS, EPS and Stone Wool thermal insulation boards.

Properties
— Specially designed for Thermal Insulation Systems, and offers high flexibility and bonding strength.
— Resistant to weather, water and impact.

Application
— Surfaces of the thermal insulation board must be clean and free from dust.
— Pour 25 kg of powder into 6 - 6.5 lt of water slowly and mix to obtain a homogenous mortar free from lumps. Allow the mortar to stand for 5-10 minutes to mature and remix it before the application.
— Apply the mortar on the boards using a steel trowel. Notch the first coat of plaster with a 4x4mm tooth thickness notched trowel for homogenous thickness. Gently press and fit in reinforcement mesh using a steel trowel before the plaster mortar dries.
— Apply in 10 cm overlaps at the joints of reinforcement mesh.
— Smoothen the surface with a steel trowel after the 2nd coat.
— Apply the 2nd coat before the 1st coat of plaster slightly drips water.
— Apply the 2nd coat of plaster slightly drips water.
— Consume the prepared mortar within 3 hours. Dispose of the mortar which has exceeded its pot life. Apply breathing top coat material after the plaster mortar is completely dry.

Warnings
— Since it contains cement, it is irritating to eyes, respiratory system and skin. For further information refer to Safety Data Sheet.

Storage
— Foamplast Thermal Insulation Board Adhesive Mortar must be stored in a dry environment in 10 layer stacks maximum.

Packaging
— 25 kg multi-ply paper bags.

Technical Specifications

<table>
<thead>
<tr>
<th>General Data</th>
<th>(23°C and 50% Relative Humidity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Grey powder</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Steel trowel</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>12 months when stored in the original sealed packing in dry place</td>
</tr>
<tr>
<td>Packaging</td>
<td>25 kg multi-ply paper bags</td>
</tr>
</tbody>
</table>

| Application Data | |
| Application Temperature Range | (+5°C)-(+35°C) |
| Mixing Ratio | 25 kg powder / 6-6.5 lt water |
| Pot Life | 3 hours |

| Performance Data | |
| Flexibility | High |
| Adhesion to the Thermal Insulation Board (EN 13494) | Min. 0.08 N/mm² |
| Water Absorption (EN 1015-18) | ≤ 0.40 kg/m² dk/30 W2 |
| Flexural Strength (EN 1015-11) | Min. 2 N/mm² |
| Water Vapor Permeability Coefficient (μ) (EN 1015-19) | Max. 15 |
**4169 Mantoplast**

**Insulation Panel Plaster**

**Description**
Cement-based thermal insulation board plaster mortar.

**Fields of Application**
— Interior and exterior walls of all buildings; adhesion of XPS, EPS and Stone Wool thermal insulation boards.

**Properties**
— Specially designed for Thermal Insulation Systems, and offers high flexibility and bonding strength.
— Resistant to weather, water and impact.

**Application**
— Surfaces of the thermal insulation board must be clean and free from dust.
— Pour 25 kg of powder into 6 - 6,5 lt of water slowly and mix to obtain a homogenous mortar free from lumps. Allow the mortar to stand for 5-10 minutes to mature and remix it before the application.
— Apply the mortar on the boards using a steel trowel. Notch the first coat of plaster with a 4x4mm tooth thickness notched trowel for homogenous thickness. Gently press and fit in reinforcement mesh using a steel trowel before the plaster mortar dries.
— Apply in 10 cm overlaps at the joints of reinforcement mesh.
— Apply the 2nd coat before the 1st coat of plaster slightly drips water.
— Smoothen the surface with a steel trowel after the 2nd coat.
— Consume the prepared mortar within 3 hours. Dispose of the mortar which has exceeded its pot life. Apply breathing top coat material after the plaster mortar is completely dry.

**Warnings**
— Since it contains cement, it is irritating to eyes, respiratory system and skin. For further information refer to Safety Data Sheet.

**Storage**
— Mantoplast Thermal Insulation Board Adhesive Mortar must be stored in a dry environment in 10 layer stacks maximum.

**Packaging**
— 25 kg multi-ply paper bags.

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**Technical Specifications** *(23°C and 50% Relative Humidity)*

<table>
<thead>
<tr>
<th><strong>General Data</strong></th>
<th>Grey powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Steel trowel</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>12 months when stored in the original sealed packing in dry place</td>
</tr>
<tr>
<td>Packaging</td>
<td>25 kg multi-ply paper bags</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Application Data</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixing Ratio</td>
</tr>
<tr>
<td>Pot Life</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Performance Data</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexibility</td>
</tr>
<tr>
<td>Adhesion to the Thermal Insulation Board (EN 13494)</td>
</tr>
<tr>
<td>Water Absorption (EN 1015-18)</td>
</tr>
<tr>
<td>Flexural Strength (EN 1015-11)</td>
</tr>
<tr>
<td>Compressive Strength (EN 1015-11)</td>
</tr>
<tr>
<td>Water Vapor Permeability Coefficient ($\mu$) (EN 1015-19)</td>
</tr>
</tbody>
</table>

---
Kale — Kale Thermal Insulation System Components Thermal Insulation Board Adhesive and Plaster Mortars

3601 Mantomix Insulation Board Adhesive and Plaster

Description
Cement-based thermal insulation board adhesive mortar and general-purpose interior/exterior plaster mortar.

Fields of Application
— Interior and exterior walls of all buildings; adhesion and plastering of XPS, EPS and Stone Wool thermal insulation boards.

Properties
— Specially designed for Thermal Insulation Systems, and offers high adhesion strength.
— High flexibility and bonding strength.
— Can be used both as adhesive and plastering mortar.
— Resistant to weather, water and impact.

Application (Adhesive Application)
— Substrates must be sound and cured. Remove any residue which may prevent adhesion. Use TAMIRART in case of uneven substrates to get a sound and flat surface.

— Pour 25 kg of powder into 5 - 6 lt of water slowly and mix to obtain a homogenous mortar free from lumps. Allow the mortar to stand for 5 - 10 minutes to mature and remix it before the application.
— If there are level differences on the surface, apply mortar to the whole back-side edges of the board, apply in dots at the middle section and press to the wall.
— If the surface is even, you can apply adhesive mortar by raking method.
— Check the level of boards with a float or a water gauge.
— Dispose of the mortar which has exceeded its pot life.
— Consume the prepared mortar within 3 hours.
— Fix mechanically after 24 hours at minimum depending on the environment temperature and surface properties.

Application (Plaster Application)
— Surfaces of the thermal insulation board must be clean and free from dust.

— Pour 25 kg of powder into 5 - 6 lt of water slowly and mix to obtain a homogenous mortar free from lumps. Allow the mortar to stand for 5-10 minutes to mature and remix it before the application.
— Apply the mortar on the boards using a steel trowel. Notch the first coat of plaster with a 4x4mm tooth thickness notched trowel for homogenous thickness. Gently press and fit in reinforcement mesh using a steel trowel before the plaster mortar dries.
— Apply in 10 cm overlaps at the joints of reinforcement mesh.
— SMOOTHEN THE SURFACE WITH A STEEL TROWEL AFTER THE 2ND COAT.
— Fix mechanically after 24 hours at minimum depending on the environment temperature and surface properties.

Warnings
— Since it contains cement, it is irritating to eyes, respiratory system and skin. For further information refer to Safety Data Sheet.

Technical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>EN 998-1</th>
<th>TS 13566</th>
<th>TSE K 113</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adhesion to the Thermal Insulation Board</td>
<td>EN 13484</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Water Absorption (EN 1015-18)</td>
<td>≤ 0,40 kg/m²/dk²·W²</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Water Absorption (EN 12808-5)</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Compressive Strength (EN 1015-11)</td>
<td>≥ 0,5 N/mm²</td>
<td>—</td>
<td>≥ 0,5 N/mm²</td>
</tr>
<tr>
<td>Bulk Density of Hardened Mortar (EN 1015-10)</td>
<td>1400 ± 100 kg/m³</td>
<td>—</td>
<td>1400 ± 100 kg/m³</td>
</tr>
<tr>
<td>Water Vapor Permeability Coefficient (μ) (EN 1745)</td>
<td>—</td>
<td>5/20 (Çizelge Değeri)</td>
<td>—</td>
</tr>
<tr>
<td>Thermal Conductivity (EN 1746)</td>
<td>0,44 W/mK (Table Value) (P=50%)</td>
<td>—</td>
<td>0,44 W/mK (Table Value) (P=50%)</td>
</tr>
<tr>
<td>Reaction to Fire (EN 13501-1)</td>
<td>A1</td>
<td>A1</td>
<td>A1</td>
</tr>
<tr>
<td>Temperature Resistance</td>
<td>(−30°C) ; (+40°C)</td>
<td>(−30°C) ; (+40°C)</td>
<td>(−30°C) ; (+40°C)</td>
</tr>
<tr>
<td>Dangerous Substances Complies</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Storage
— Mantomix Thermal Insulation Board Adhesive and Plaster Mortar must be stored in a dry environment in 10 layer stacks maximum.

Packaging
— 25 kg multi-ply paper bags.
3602 Mantostone
Light Weight Insulation Board Adhesive and Plaster

Description
Light weight adhesive and plaster mortar specially designed for Stone Wool thermal insulation systems.

Fields of Application
— Interior and exterior walls of all buildings; adhesion and plastering of XPS, EPS and Stone Wool thermal insulation boards.

Properties
— 40% lighter adhesive and plaster mortar
— 40% lower water absorption.
— Lightens the Thermal Insulation System by 25%.
— Light, easy-to-apply and more practical.

Application (Adhesive Application)
— Substrates must be sound and cured. Remove any residue which may prevent adhesion. Use TAMIRART in case of uneven substrates to get a sound and flat surface.
— Pour 15 kg of powder into 5.5 – 6.5 lt of water slowly and mix to obtain a homogenous mortar free from lumps. Allow the mortar to stand for 5-10 minutes to mature and remix it before the application.
— If there are level differences on the surface, apply mortar to the whole back-side edges of the board, apply in dots at the middle section and press to the wall.
— If the surface is even, you can apply adhesive mortar by raking method.
— Check the level of boards with a float or a water gauge.
— Smoothen the surface with a steel trowel.
— Fix mechanically after 24 hours at minimum depending on the environment temperature and surface properties.

Application (Plaster Application)
— Surfaces of the thermal insulation board must be clean and free from dust.
— Pour 15 kg of powder into 5.5 – 6.5 lt of water slowly and mix to obtain a homogenous mortar free from lumps. Allow the mortar to stand for 5-10 minutes to mature and remix it before the application.
— Apply the mortar on the boards using a steel trowel. Notch the first coat of plaster with a 4x4mm tooth thickness notched trowel for homogenous thickness. Gently press and fit in reinforcement mesh using a steel trowel before the plaster mortar dries.
— Apply in 10 cm overlaps at the joints of reinforcement mesh.
— Apply the 2nd coat before the 1st coat of plaster slightly dries water.
— Smoothen the surface with a steel trowel after the 2nd coat.
— Fix mechanically after 24 hours at minimum depending on the environment temperature and surface properties.

Warnings
— Since it contains cement, it is irritating to eyes, respiratory system and skin. For further information refer to Safety Data Sheet.

Storage
— Mantostone Thermal Insulation Board Adhesive and Plaster Mortar must be stored in a dry environment in 10 layer stacks maximum.

Performance Data

Technical Specifications

<table>
<thead>
<tr>
<th>General Data</th>
<th>EN 998-1</th>
<th>TSE 13566</th>
<th>TSE K 113</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Grey powder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Tools</td>
<td>Steel trowel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shelf Life</td>
<td>12 months when stored in the original sealed packing in dry place</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pot Life</td>
<td>3 hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumption</td>
<td>2.5-3 kg/m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Temperature Range</td>
<td>(+5°C)-(+35°C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixing Ratio</td>
<td>15 kg powder / 5.5-6.5 lt water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pot Life</td>
<td>3 hours</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Data</th>
<th>EN 998-1</th>
<th>TSE 13566</th>
<th>TSE K 113</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Absorption (EN 1015-11)</td>
<td>≤ 0.20 kg/m²/dk W</td>
<td>≤ 0.20 kg/m²/dk</td>
<td>≤ 0.20 kg/m²/dk</td>
</tr>
<tr>
<td>Compressive Strength (EN 1015-11)</td>
<td>≥ 4 N/mm²</td>
<td>≥ 4 N/mm²</td>
<td>≥ 4 N/mm²</td>
</tr>
<tr>
<td>Bonding Strength - Type of Break (EN 1015-12)</td>
<td>≥ 2.5 N/mm²</td>
<td>≥ 2.5 N/mm²</td>
<td>≥ 2.5 N/mm²</td>
</tr>
<tr>
<td>Bulk Density of Hardened Mortar (EN 1015-10)</td>
<td>≤ 1000 kg/m³ LW</td>
<td>≤ 1000 kg/m³</td>
<td>≤ 1000 kg/m³</td>
</tr>
<tr>
<td>Water Vapor Permeability Coefficient (μ) (EN 1745)</td>
<td>≤ 10</td>
<td>≤ 10</td>
<td>≤ 10</td>
</tr>
<tr>
<td>Thermal Conductivity (EN 1015-12)</td>
<td>0.07 W/mK (Table Value)(P=0.50)</td>
<td>0.07 W/mK (Table Value)(P=0.50)</td>
<td>0.07 W/mK (Table Value)(P=0.50)</td>
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<tr>
<td>Reaction to Fire (EN 13501-1)</td>
<td>A1</td>
<td>A1</td>
<td>A1</td>
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<tr>
<td>Temperature Resistance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dangerous Substances (EN 998-1)</td>
<td>Complies</td>
<td>Complies</td>
<td>Complies</td>
</tr>
</tbody>
</table>
**4082 Minart Silver**

Mineral Based Decorative Exterior Coating

**Description**

Cement based decorative exterior coating material.

**Fields of Application**

— Used for thinly plastered, or coarsely but well plastered surfaces in the exterior coating system.

**Properties**

— Provides quick application by being easily applied.
— Easy to give texture.
— Resilient to extreme climatic conditions with its superior performance.
— Forms a natural and decorative textured surface with its characteristic filling.
— High water vapour permeability allowing the building to breathe.
— Allows the building to breathe thanks to its moisture removal ability.

**Application**

— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound clean and dry. New mineral substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.
— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
— Use Kale MACUNART or Kalekim TAMİRART in case of uneven substrates to get sound and flat surface.
— Pour 25 kg of MINART SILVER into 5,75 – 6,5 lt of water slowly and mix to obtain a homogenous plaster free from lumps. A low speed mixer is recommended to mix.
— Allow to stand for 5-10 minutes to mature. After remixing the paste is ready for application.
— Apply MINART SILVER evenly to the surface by means of a stainless steel trowel. After applying the first layer, allow the plaster to dry for 5-10 hours, then apply the second layer. The second layer is usually applied with a steel trowel. Stir again before applying the next layer. For application of more than two layers, the layers must be applied without interruption to prevent any air pockets from appearing.
— Consume the prepared mortar within 3 hours. Dispose of the mortar which has exceeded its pot life.
— Finish all adjoining surfaces in a single application. Do not leave MINART SILVER as final coat. Must be painted after drying.
— Do not add any additives, except the ones stated in the product application instructions.
— Ensure that the air and surface temperatures are above +5º C and the surface is rain free during application and 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity, imminent rain or frost. Hot surfaces should be dampened before application.

**Technical Specifications**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>White</td>
</tr>
<tr>
<td>Composition</td>
<td>Cement based</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>12 months when stored in the original sealed packing in dry place</td>
</tr>
<tr>
<td>Consumption</td>
<td>2,4 - 2,8 kg/m²</td>
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<tr>
<td>Application Temperature Range</td>
<td>(15°C) - (35°C)</td>
</tr>
<tr>
<td>Application Tools</td>
<td>Steel and plastic trowel</td>
</tr>
<tr>
<td>Mixing Ratio</td>
<td>5,75 - 6,5 lt water / 25kg powder</td>
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<tr>
<td>Service Temperature Range</td>
<td>(30°C) - (40°C)</td>
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<tr>
<td>Compressive Strength / Class (TS EN 1015-11)</td>
<td>3,5 – 7,5N/mm² - CS III</td>
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<tr>
<td>Bonding Strength / Type of Break (TS EN 998-1)</td>
<td>0,45N/mm² - B</td>
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<td>Bulk Density of Hardened Mortar (TS EN 1015-10)</td>
<td>≤ 0,40kg/m³.kd½ - W1</td>
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<tr>
<td>Capillary Water Absorption – Class (TS EN 1015-18)</td>
<td>≤ 0,04kg/m³.kd½ - W1</td>
</tr>
<tr>
<td>Water Vapor Permeability Coefficient / μ (TS EN 1745)</td>
<td>≤ 0,20 (Table Value)</td>
</tr>
<tr>
<td>Thermal Conductivity (TS EN 1745)</td>
<td>≤ 0,47 W/m.K (Table Value) P = 50%</td>
</tr>
<tr>
<td>Reaction to Fire (TS EN 13501-1)</td>
<td>A1</td>
</tr>
<tr>
<td>Dangerous Substances (EN 998 - 1)</td>
<td>Complies</td>
</tr>
</tbody>
</table>

---

In order to avoid overlapping in large areas or after work pauses, masking tape should be used or an adequate number of applicators should be employed to apply the plaster wet-on-wet without interruptions.

The above values are given for 23°C±2 temperature and % 50±5 humidity conditions. Values may differ depending on environmental conditions.

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**Warnings**

— Since it contains cement, it is irritating to eyes, respiratory system and skin. For further information refer to Safety Data Sheet.

**Storage**

— Stack maximum 10 layers and store in dry conditions.

**Packaging**

— 25 kg multi-ply paper bags.

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Certificates of Quality: TS EN 998-1 (July 2011)
Public Works Pos. No.: 04.476/A
Description
Cement-based, line-texture decorative coating.

Fields of Application
— Used for thinly plastered, or coarsely but well plastered surfaces in the exterior coating system.

Properties
— Specially manufactured for thermal insulation systems and resilient to extreme climatic conditions with its superior performance.
— Provides quick application by being easily applied.
— Extended open time.
— Easy to give texture.
— Forms a natural and decorative textured surface with its characteristic filling.
— High water vapour permeability allowing the building to breathe.
— Allows the building to breathe thanks to its moisture removal ability.

Application
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound clean and dry. New mineral substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.

— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
— Use Kale MACUNART or Kalekim TAMİRART in case of uneven substrates to get sound and flat surface.
— Pour 25 kg of MINART DEKOR 200 into 5,25 – 6 lt of water slowly and mix to obtain a homogenous plaster free from lumps. A low speed mixer is recommended to mix.
— Allow to stand for 5-10 minutes to mature. After remixing the paste is ready for application.
— Apply MINART DEKOR 200 evenly to the surface by means of a stainless steel trowel as far as the required filling span. Apply a plastic trowel in vertical and circular movements to gain texture.
— Consume the prepared mortar within 3 hours. Dispose of the mortar which has exceeded its pot life.
— Finish all adjoining surfaces in a single application.
— Do not leave MINART DEKOR 200 as final coat. Must be painted after drying.
— Do not add any additives, except the ones stated in the product application instructions.
— Ensure that the air and surface temperatures are above +5º C and the surface is rain free during application and 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity, imminent rain or frost. Hot surfaces should be dampened before application.
— In order to avoid overlapping in large areas or after work pauses, masking tape should be used or an adequate number of applicators should be employed to apply the plaster wet-on-wet without interruptions.
— The above values are given for 23°C±2 temperature and % 50±5 humidity conditions. Values may differ depending on environmental conditions.
— Not suitable for application on horizontal surfaces exposed to rain or moisture.

Warnings
— Since it contains cement, it is irritating to eyes, respiratory system and skin. For further information refer to Safety Data Sheet.

Storage
— Stack maximum 10 layers and store in dry conditions.

Packaging
— 25 kg multi-ply paper bags.

Description
Cement-based, line-texture decorative coating.

Fields of Application
— Used for thinly plastered, or coarsely but well plastered surfaces in the exterior coating system.

Properties
— Specially manufactured for thermal insulation systems and resilient to extreme climatic conditions with its superior performance.
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— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.
— Use Kale MACUNART or Kalekim TAMİRART in case of uneven substrates to get sound and flat surface.
— Pour 25 kg of MINART DEKOR 200 into 5,25 – 6 lt of water slowly and mix to obtain a homogenous plaster free from lumps. A low speed mixer is recommended to mix.
— Allow to stand for 5-10 minutes to mature. After remixing the paste is ready for application.
— Apply MINART DEKOR 200 evenly to the surface by means of a stainless steel trowel as far as the required filling span. Apply a plastic trowel in vertical and circular movements to gain texture.
— Consume the prepared mortar within 3 hours. Dispose of the mortar which has exceeded its pot life.
— Finish all adjoining surfaces in a single application.
— Do not leave MINART DEKOR 200 as final coat. Must be painted after drying.
— Do not add any additives, except the ones stated in the product application instructions.
— Ensure that the air and surface temperatures are above +5º C and the surface is rain free during application and 24 hours following the application.
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity, imminent rain or frost. Hot surfaces should be dampened before application.
— In order to avoid overlapping in large areas or after work pauses, masking tape should be used or an adequate number of applicators should be employed to apply the plaster wet-on-wet without interruptions.
— The above values are given for 23°C±2 temperature and % 50±5 humidity conditions. Values may differ depending on environmental conditions.
— Not suitable for application on horizontal surfaces exposed to rain or moisture.

Warnings
— Since it contains cement, it is irritating to eyes, respiratory system and skin. For further information refer to Safety Data Sheet.

Storage
— Stack maximum 10 layers and store in dry conditions.

Packaging
— 25 kg multi-ply paper bags.
Description  
Cement based intens line-texture coating material.

Fields of Application  
— Used for thinly plastered, or coarsely but well plastered surfaces in the exterior coating system.

Properties  
— Specially manufactured for thermal insulation systems and resilient to extreme climatic conditions with its superior performance.  
— Provides quick application by being easily applied.  
— Extended open time.  
— Easy to give texture.  
— Forms a natural and decorative textured surface with its characteristic filling.  
— High water vapour permeability allowing the building to breathe.  
— Allows the building to breathe thanks to its moisture removal ability.

Application  
— The substrate must be cleaned from dust, dirt, oil and old blistered coatings that may prevent good adhesion. The surface should be made sound clean and dry. New mineral substrates must be cured at least 28 days before application. All water insulation precautions should have been taken prior to application.

— Sand glossy and/or solvent based painted surfaces to improve adhesion and remove the occurring powder.  
— Use Kale MAÇUNART or Kalekim TAMİRART in case of uneven substrates to get sound and flat surface.

— Pour 25 kg of MİNART DEKOR 300 into 5,5 – 6,25 lt of water slowly and mix to obtain a homogenous plaster free from lumps. A low speed mixer is recommended to mix.  
— Allow to stand for 5-10 minutes to mature. After remixing the paste is ready for application.  
— Apply MİNART DEKOR 300 evenly to the surface by means of a stainless steel trowel as far as the required filling span. Apply a plastic trowel in vertical and circular movements to gain texture.  
— Consume the prepared mortar within 3 hours. Dispose of the mortar which has exceeded its pot life.  
— Finish all adjoining surfaces in a single application.  
— Do not leave MİNART DEKOR 300 as final coat. Must be painted after drying.  
— Do not add any additives, except the ones stated in the product application instructions.  
— Ensure that the air and surface temperatures are above +5°C and the surface is rain free during application and 24 hours following the application.  
— Do not apply in extremely hot weather, under glaring sun, during strong wind, fog, high relative humidity, imminent rain or frost. Hot surfaces should be dampened before application.  
— In order to avoid overlapping in large areas or after work pauses, masking tape should be used or an adequate number of applicators should be employed to apply the plaster wet-on-wet without interruptions.  
— The above values are given for 23°C±2 temperature and % 50±5 humidity conditions. Values may differ depending on environmental conditions.  
— Not suitable for application on horizontal surfaces exposed to rain or moisture.

Warnings  
— Since it contains cement, it is irritating to eyes, respiratory system and skin. For further information refer to Safety Data Sheet.

Storage  
— Stack maximum 10 layers and store in dry conditions.

Packaging  
— 25 kg multi-ply paper bags.

Technical Specifications  

General Data  
Colour: White  
Composition: Cement based  
Shelf Life: 12 months when stored in the original sealed packing in dry place

Application Data  
Consumption: ~ 3 kg/m²  
Application Temperature Range: (+5°C) - (+35°C)  
Application Tools: Steel and plastic trowel  
Mixing Ratio: 5,5 - 6,25 lt water / 25kg powder

Performance Data  

Compressive Strength / Class (TS EN 1015-11): ≥ 6 N/mm² - (CS W)  
Brazing Strength - Type of Break (TS EN 1015-12): ≥ 0,60 N/mm² / B  
Bulk Density of Hardened Mortar (TS EN 1015-10): ≤ 1600 ± 100 kg/m³  
Capillary Water Absorption – Class (TS EN 1015-18): ≤ 0,40 kg/m³ * dkl / W 1  
Thermal Conductivity (TS EN 1745): ≤ 0,03 W/m.K (Table Value) P – % 50  
Water Vapor Permeability Coefficient (μ) (TS EN 1745): 15/35 (Table Value)  
Reaction to Fire (TS EN 13501-1): A1  
Dangerous Substances (EN 998 - 1): Complies

Certificates of Quality: TS EN 998-1 (July 2011)  
Public Works Pos. No.: 04.476/A
Kale Thermal Insulation System Components

Kale EPS Reinforcement Mesh

It is a glass wool material having impregnated fiber layers against alkali and chemicals.

Technical Specifications
Density : 160 gr/m²
Mesh Interval : 4x4 mm
Tensile strength : Min. 1900 N/5 cm
Tensile strength : Min. 1200 N/5 cm
(5% NaOH solution test)
Tensile strength : Min. 1250 N/5 cm
(Accelerated test)

Kale EPS Meshed PVC Corner Profile

It is the meshed PVC profile used to reinforce the weak sections (edges, corners, etc.) that are most easily affected from external factors.

Kale Anchor with Plastic Nail

It is the mechanical fitting piece that is used to fix the Kale EPS Thermal Insulation Boards to the facade.

Kale Anchor with Steel Nail

It is a mechanical fitting piece which is used to fix the Kale Thermal Insulation Boards to the reinforced concrete and hard surfaces. Steel nail is particularly preferred in Stone Wool insulation applications.

Kale Wooden “OSB” Anchor with Screw

Plastic drill-tipped metal screws used in Kale thermal insulation applications on wood (OSB etc.) and cement-bonded particleboard surfaces.

Kale Aerated Concrete Anchor

Plastic screw or steel nail fitting piece used in Kale thermal insulation applications on aerated concrete surfaces. Selected depending on insulation material type and thickness.
Kale Thermal Insulation System Accessories

Kale Inundation Profile
It is an aluminum profile which protects the system against impacts and that is used as inundation plane.

Kale Aluminum Corner Profile
It is an aluminum profile which protects the external corners against impacts.

Kale Aluminum Edging Profile
It is an aluminum profile which is used in corbels to protect the facade against water.

Kale Meshed PVC Edging Profile
It is a meshed PVC profile which is used in corbels to protect the facade against water.

Kale Fuqua Profile
It is a profile which is used to form joints on the facade.

Kale Dilatation Profile
It is a profile which is used to cover the dilatation space and enable sheathing system to function at dilatation points.

Kale Sill Profile
It is an aluminum and PVC profile which is used to lengthen the current windowsill.

Kale Inundation Wedge
It is a plastic material which is used to smooth the undulation existing on the facade and balance the inundation profile.

Kale Sinker Heading
It is a fixture which is used to place the anchor heading firmly on Kale EPS boards.
Kale Thermal Insulation Components

**Kale White EPS System Components**
1- Kale White EPS Foamtech / Mantotech Adhesive Mortar
2- Kale White EPS Thermal Insulation Board
3- Kale White EPS Anchor
4- Kale White EPS Foamplast / Mantoplast Plaster Mortar
5- Kale White EPS Meshed PVC Corner Profile
6- Kale White EPS Reinforcement Mesh
7- Kale Beyaz EPS Foamplast / Mantoplast Plaster Mortar
8- Kale Silastar
9- Kale Paint, Plaster and Decorative Coating

**Kale Carbon EPS System Components**
1- Kale Carbon EPS Foamtech / Mantotech / Mantomix Adhesive Mortar
2- Kale Carbon EPS Thermal Insulation Board
3- Kale Carbon EPS Anchor
4- Kale Carbon EPS Foamplast / Mantoplast / Mantomix Plaster Mortar
5- Kale Carbon EPS Meshed PVC Corner Profile
6- Kale Carbon EPS Reinforcement Mesh
7- Kale Carbon EPS Foamplast / Mantoplast / Mantomix Plaster Mortar
8- Kale Silastar
9- Kale Paint, Plaster and Decorative Coating

**Kale Stone Wool System Components**
1- Kale Stone Wool Mantotech / Mantostone Adhesive Mortar
2- Kale Stone Wool Thermal Insulation Board
3- Kale Stone Wool Anchor
4- Kale Stone Wool Mantoplast / Mantostone Plaster Mortar
5- Kale Stone Wool Meshed PVC Corner Profile
6- Kale Stone Wool Reinforcement Mesh
7- Kale Stone Wool Mantoplast / Mantostone Plaster Mortar
8- Kale Minart Gold / Minart Silver / Minart Dekor
9- Kale Silastar
10- Kale Paint, Plaster
Kale Thermal Insulation System Application

**Installation of Kale Inundation Profile**

The surface is taken to the square using Kale Inundation Wedges in order to smooth the obliquities on the surface while installing the Kale Inundation Profile.

Select Inundation Profiles suitable for the board thickness.

Balancing the Kale Inundation Profile with plastic wedges.

Installing the Kale Inundation Profile with anchors.

Installing the Kale EPS Thermal Insulation Board on the inundation profile.

**Installing and Bonding of Kale EPS Thermal Insulation Boards**

The surface must be definitely checked before the application. If deemed necessary, the surface must be repaired using structural repair mortar.

Mantotech Thermal Insulation Board Adhesive Mortar must be applied on the edges of the board, and adequate number of lumps must be formed at the center of the plate according to the dimension of the board. Ensure to have minimum 40% adhesive contact at the back of the board.

Kale EPS Thermal Insulation Boards, which have been applied Kale EPS Mantotech Thermal Insulation Board Adhesive Mortar, are installed on the Inundation profile and pasted on the wall by slightly shifting in a way that no space is left between the boards.

Raking must be performed (Notched trowel with 10x10 tooth dimensions) depending on the smoothness of the surface.

Bonding Kale EPS Thermal Insulation Board, the backsides of which have been applied Mantotech Thermal Insulation Board Adhesive Mortar, on the surface.
Anchoring Kale EPS Thermal Insulation Boards

In addition to the bonding process, mechanical fitting pieces are needed for Kale EPS Thermal Insulation Boards to maintain their continuance and performance in a long-lasting way. 24 hours after the bonding process is performed with Kale EPS Mantotech Thermal Insulation Board Adhesive Mortar, anchors must be installed as 6 units per square meter on the points where the building height is lower than 8 meters, and continuance must be maintained. The higher the building height, the higher the number of utilized anchors per square meter.

Counterboring must be performed in order for the anchor head to be firmly placed on the pasted Kale EPS Thermal Insulation Board.

Anchor point is drilled.

Anchor is placed and the pin is removed.

Forming Building Corners and Window Borders

In order to form a smooth and durable corner in edge and corner finishing, aluminum or Kale Meshed PVC Corner Profile is placed in the first layer of the Mantoplast Thermal Insulation Board Plaster Mortar. First layer of plaster is applied on the center corners of windows, and Kale Meshed PVC Corner Profile is placed. The first layer of the exterior facade is completed by overlapping with 10 cm Kale Reinforcement Mesh and Kale Meshed PVC Corner Profile that have been placed in Mantoplast Thermal Insulation Board Plaster Mortar.

Installing the Kale Meshed PVC Corner Profile.

Installing the Kale Meshed PVC Corner Profile on window corners.

Installing the Kale Meshed PVC Edging Profile.
Kale Thermal Insulation System Application

Forming the Layers of Mantoplast Thermal Insulation Board Plaster Mortar

The first layer of Mantoplast Thermal Insulation Board Plaster Mortar must be applied at least 24 hours after the adhesion application. The first layer plaster mortar must be raked with a notched trowel having 4x4 tooth dimensions in order to maintain an equal consumption and get a homogenous thickness. Right after applying the first layer of plaster mortar, reinforcement mesh is placed horizontally or vertically by being lightly immersed in the mortar. Second layer of plaster mortar is applied before the first layer is dried. While applying the second layer of plaster mortar, wait for the first layer to lightly give off its water for preventing Kale EPS Reinforcement Mesh from coming loose or immersing in the first layer of plaster mortar depending on the weather conditions.

Formation of Kale Decorative Coatings

After Mantoplast Thermal Insulation Board Plaster Mortar has been dried, surface preparation must be performed in accordance with the type of the decorative coating material that will be applied on the surface. The surface on which acrylic based decorative coating material will be applied, must firstly be primed with Kale Silastar. If mineral based Minart Gold, Minart Silver or Minart Dekor is preferred as topcoat, Kale Silastar must be applied on the surface after Minart application.

Kale Exterior Paint application on Minart
Points to Consider in Stone Wool Application

Thanks to its high water absorption, Stone Wool is applied at the edges of the board and lump areas before the adhesion application, and surplus adhesive mortar is removed. This reduces the absorption of areas which will be applied adhesive. Apply adhesive mortar to the edges and center and press against the surface.

Stone Wool Anchoring Method

Use steel nails / anchors with screw for Stone Wool application. Use additional anchor heads depending on wind load requirements.

No need to block corners since thermal expansion is too low. Fix the anchors in “W” shapes.
Kale ––––––– Certificates of Quality

TÜRKÇΕ STANDARNLARI ENSTİTÜSÜ
Bu belge ile
KALEKİM KMYEYİ MAVİSELİ SAN. VE TİC. A.Ş.
MERKEZ VE TESIS 1: FRUZKÖY MAH. FRUZKÖY
BULVARI NO:1861 34325 AVÇILAR -
İSTANBUL / TÜRKİYE

Kuruluşunuz TS ISO 10002:2014 particulière uygun bir Müşteri Memnuniyeti Yönetim Sistemi'ne şöyledir

Belge Kapsamı EK'te pérdilmistür

Bu belge, Türk Standartları Enstitüsü'nün kuruluşu halindeki 133 sayılı kanununuyu yerine getirir.

This certificate is issued in accordance with the Law No. 132 establishing Turkish Standards Institution.

TURKİSH STANDARDS INSTITUTION
hereby certifies that the organization
KALEKİM KMYEYİ MAVİSELİ SAN. VE TİC. A.Ş.
MERKEZ VE TESIS 1: FRUZKÖY MAH. FRUZKÖY
BULVARI NO:1861 34325 AVÇILAR -
İSTANBUL / TÜRKİYE

bas a CUSTOMER SATISFACTION MANAGEMENT SYSTEM which fulfills the requirements of the TS ISO 10002:2014

Scope of the certificate is given in annex

Belge No / Certificate No: M-6832/10
Belge Tarihi / Date of Certificate: 05.03.2014

GÖZKEM BİRCAN BİRCAN VURMUŞ

Scope of the Certificate:

Belge No / Certificate No: M-6832/10
Belge Tarihi / Date of Certificate: 05.03.2014

TSE Müşteri Memnuniyeti Yönetim Sistemi Belgesi
CUSTOMER SATISFACTION MANAGEMENT SYSTEM CERTIFICATE

TSE Müşteri Memnuniyeti Yönetim Sistemi Belgesi
CUSTOMER SATISFACTION MANAGEMENT SYSTEM CERTIFICATE

EK / ANNEX

Müşteri Memnuniyeti Yönetimi Sistemi Belgesi
CUSTOMER SATISFACTION MANAGEMENT SYSTEM CERTIFICATE

KALEKİM KMYEYİ MAVİSELİ SAN. VE TİC. A.Ş.
MERKEZ VE TESIS 1: FRUZKÖY MAH. FRUZKÖY
BULVARI NO:1861 34325 AVÇILAR -
İSTANBUL / TÜRKİYE

Belge No / Certificate No: M-6832/10
Belge Tarihi / Date of Certificate: 05.03.2014

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Belge No / Certificate No: M-6832/10
Belge Tarihi / Date of Certificate: 05.03.2014

Scope of the Certificate:
Kale ——— certificates of quality

Türk Standardları Enstitüsü

Bu belge, Türk Standardları Enstitüsü'nün kuruluşundaki 132 sayılı kanun uyarınca verilen belgenin, TSE 18001-2014 standsında occupational health and safety management systemuna uygun olduğunu belirtir.

Scopes of the certificate is given in annex

Belge No / Certificate No: OV-398-09/07

Belge Tarihi / Date of Certificate: 01.12.2015

TURKISH STANDARDS INSTITUTION hereby certifies that the organization

KALEKİM KYMYEVİ MADDELER SAN. VE TİC. A.Ş.
MEKE VE TİSSİ TİSİ: FİRÇKÖY MAH, FİRÇ KÖY
BULVARI NO:1861 34325 AYVILAR -
İSTANBUL / TÜRKİYE

bunun 1. OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM CERTIFICATE which fulfills the requirements of the TS 18001:2014

Belgeli Kuruluş Adı, Adresi:

Name and Address of the Certified Organization:

Belgeli Kullanıcı Adı, Adresi:

Certified User Name, Address:

Belgeli Kullanıcı Adı, Adresi:

Certified User Name, Address:

Belgeli Kullanıcı Adı, Adresi:

Certified User Name, Address:

Belgeli Kullanıcı Adı, Adresi:

Certified User Name, Address:

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