General Application Information

In order to get a long life and proper ceramic coating, checking and making the necessary corrections of the surface are very important factors. The required checkings and corrections vary according to whether the surface is a new or an old one. Meanwhile, taking the environmental conditions into consideration is a must.

Environmental Conditions

Because of the seasonal or geographical characteristics, the environmental conditions may change, for example very cold and hot temperatures or being subjected to direct sunlight.

— Applications at low temperatures (lower than +5° C) have drawbacks. In order to start with the application, it is necessary to wait until this temperature is reached. This temperature is the lowest one at which the cement based mortars can get the necessary setting.
— Applications at very hot temperatures (higher than) have also drawbacks. In this case, the dropping of the temperature into the proper range (between +5° C and +35° C) is required. Minimally, the surface and the ceramics must be moistened for decreasing the adverse effect of the high temperature.
— For the applications under wind and direct sunlight, efficiency diminishes due to decrease of working time. If the application is necessary, either dampen the surface or for a better result use KALEKİM ASTAR. In addition, application of the mortar to the surface with shorter periods or buttering method is recommended.

Surface Examination and Surface Preparation

— New Surfaces: The surface (like concrete, plaster and screed) should be strong and of 3-4 week cured. Residues like shuttering lupe that may affect adhesion should be removed and irregular, uneven areas should be flattened with TAMİRART repair mortar.
— Old Surfaces: The strength of the surfaces should be carefully examined without considering how well the holding power of the new adhesive is. The concrete surface must be checked in certain intervals with a hammer, nail or chisel and if it is easy the present concrete must be scraped out until the strong surface is reached, any cracks or holes has to be filled with TAMİRART and flattened. When making the surface correction at the uneven sections of the floor, correct the local disorders with TAMİRART repairing mortar, and all surface disorders with MASTAR 10 leveling mortar. The paint, mortar, oil and dirt on the surface should completely be removed because they have negative effects on adhesion.
— Absorbent Surfaces: The surfaces with high water absorbency (plaster block, plaster plate, gas concrete, wood etc) must be primed with KALEKİM ASTAR for preventing quick evaporation of the water in the mortar that leads weak adhesion.
— Ceramic coated surfaces: In case ceramic re-coating on ceramic coated surface, check present coating with a hammer first. If there is weak, hardly stuck ceramics either re-fix them or remove them and fill the gaps with TAMİRART repairing mortars. For this application, the selection of the adhesive mortar is important.
— Painted Surfaces: Before any application the painted surface must be checked first. If there are loose and swollen areas, then they should be scrapped out. In order to increase the holding power, scoring the surface is recommended.
— Please carefully examine the sections special application and the product leaflets.

Adhesion Methods

The three international methods are used for the applications of the adhesive mortars. The main purpose to be considered here is to cover the backside of the coating plate with the mortar completely, leaving no gaps. The notched trowel type to be used in these applications is a complementary factor.

A. Combing Method

This is a most widely used method applied in fixing of the small and medium sized coating materials in fine bed mortars.

The adhesive mortar is spread onto the surface with a plain hand trowel applying a sweet force, and then is spread with notched trowel with proper size teeth with 45-60° C handling angle.

After these operations, the coating material is fixed onto the mortar bed applying force on. Additionally the coating material is fixed with the help of a rubber or wooden hammer in order to increase the holding power and spread of the mortar under the tile then levelled.

B. Buttering Method

This method is used in order to fix the small and the medium size coating materials in fine bed mortars. The adhesive mortar is applied as a layer onto the backside of the coating material with a plain trowel without leaving any gaps at the corners and the sides. After these operations the coating material is fixed onto the mortar bed applying force on. Additionally the coating material is fixed with the help of a rubber or wooden hammer in order to increase the holding power and spread of the mortar under the tile then levelled.

C. Combined Method

This method is the one used in medium bed mortars and should be applied in sticking of the big size coating materials and the surfaces where heavy pedestrian and load traffic exist, in cold climates and for the outer surface applications. The adhesive mortar is applied onto the surface then pulled with a notched trowel like combing method and applied onto the backside of the coating material as a thin layer like buttering method. After these operations the coating material is fixed onto the mortar bed applying force on.

Additionally the coating material is fixed with the help of a rubber or wooden hammer in order to increase the holding power and spread of the mortar under the tile then levelled.

Notch Size Table

Tile Dimensions	Notch Sizes
< 5 cm	3 mm
5-10 cm	4 mm
10-20 cm	6 mm
20-40 cm	8 mm
> 40 cm	10 mm

Important Points In The Application Of Adhesives

— Control the shelf life and the product before the application
— Prepare the product according to instructions on the package.
— Pour adhesive into clean water slowly and mix to obtain a homogeneous paste free from lumps. A low speed mixer is recommended to mix. Amount of water should be precisely measured. Do not add any additive which is not mentioned in the instructions for the application.
— Pay attention to the surface preperation criteria.
— Choose the suitable adhesive according to the application area
— To make the application from top to bottom even for bonding of heavy tiles without sagging., choose adhesives which can be applied on vertical surfaces
— Prefer highly deformable adhesives for facade applications and use combined method.
— Spread the mortar onto the substrate with notched trowel of which notch size is appropriate to the tile dimension. To obtain a good adhesion first apply a thin coat with the flat side of trowel, then notch with the tooted side of trowel.
— Install the tiles within open time period with a firm pressure. Unfavourable climatic conditions (high temperature, low humidity, wind, etc) can reduce this time to just a few minutes, If this period exceed, scratch and discard the mortar.
— Dispose mortars of which pot life is expired.
— Tiles installed must not be subject to water for at least 24 hours.
— In installation of large size tiles, lay the tiles horizontally and do not start to lay upper row before the below one cured. Leave an expansion joint at every 4 meter and use poliurethane mastic.
— For epoxy and poliurethane adhesives the surface must be dry. Surface moisture should be less than 5%. All the components must be mixed at once using a low speed mixer. Application procedures should be followed precisely while preparing the poduct to use. Do not add water.
— Affect of weather conditions on the application properties of the epoxy and poliurethane adhesives should be taken into consideration. Unfavourable climatic conditions (high temperature, low humidity, wind etc) can reduce the curing time.

Important Points In The Application Of Grouts

— Control the shelf life and the product before the application
— Prepare the product according to instructions on the package.
— Pour the powder into clean water slowly and mix to obtain a homogeneous paste free from lumps. A low speed mixer is recommended to mix. Amount of water which is indicated in the product information should be precisely measured. Do not add any additive which is not mentioned in the instructions for the application.
— Grouts which are prepared for floor and wall applications should have the same viscosity.
— The joints must be clean, free of dust.Wet the joints with clean water when using very porous ceramic tiles in high temperatures and in the presence of wind.
— Clean the surface with a damp sponge after the mixture loses its plasticity and becomes matt.
— Cleaning should be done by a well squized, damp sponge. Do not use wet sponge.
— Choose the right grout according to the joint gap and the application area.
— Use poliurethane joint fillers for the expansion joints.
— Prepare epoxy grouts according to instructions and mix the components at once. For the Epoxy grouts in the shortest possible time, clean the excess grout using a damp sponge soaked in soap and water mixture, by making light circular movements on tile surface and joints. Continue cleaning until eliminating the product from the surface of the tiles completely without removing it from joints. Change the cleaning water and the sponge is impregnated with resin and can no longer be cleaned, it must be replaced.
— For epoxy and poliurethane grouts the surface must be dry.

Important Points In The Application Of Waterproofing Materials

— Control the shelf life and the product before the application
— Attention should be paid to surface preparation criteria.
— Prepare the product according to instructions on the package.
— Corners and joints should be softened and waterproofed.
— Waterproofing tapes should be used for construction joints.
— Surface must absolutely be coated with Isoline Primer before bitumen based insulation applications.
— Before application of cement based waterproofing materials, surface must be primed with KALEKİM ASTAR or must be dampened in order to lower surface absorbency.
— During application of polyurethane based waterproofing materials, surface must be dry and dehumidified.
— In order to get good results, waterproofing materials must be applied to surface in the recommended number of layers, in product data sheet to ensure total required application thickness.
— At terrace applications, waterproofing must start under cap on parapet walls.
— At points where cold joints occur in pools, foundation, curtain wall applications waterproofing tapes must be used.
— Surface should be repaired prior to crystallized waterproofing materials application and if there is an active water flow, the upstream must be plugged with İZOSTOP Plug Mortar, surface must be roughened and wetted before treatment if necessary.
— Surface must be wetted before application of each layer of crystallized waterproofing materials. Surface must be covered with nylon cover until fully cured and dried.
— Because İZOSTOP Plug Mortar is a rapidly setting product, application must be made quick and the water flow clearance must not be larger than pawl.
— In the application of acrylic based ELASTİKOR, surface must be primed by diluting ELASTİKOR by adding water at the ratio of ¼, then the material must be applied in 2 layers vertically and 3 layers horizontally without adding water. Use as it is.
— Components of Polyurethane based waterproofing materials must not be mixed and should be applied one by one, in layers.
— If ceramic tiling is to be done on surface after Elastikor application, sand blasting must be made during last layer application using washed and baked sand of max. 300 microns.

For further information about the applications please contact with the Technical Office.
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TS EN 12004 Ceramic Adhesive Standard

According to the new adhesive standard TS EN 12004 which has been revised in the scope of European Union harmonization laws, adhesives are classified into various types in accordance with their technical performances. Thanks to these classifications, the products were ensured to be differentiated in terms of the features they possess. Thus, the choice of the consumers was made easier in order to use the right product for the right application.TS EN 12004 defines the workability, nonslip, wettability, open time resistance tests and resistance tests conducted in different environment conditions which are designated for adhesives. TS EN 12004 standard brings together the product features in a single standard which is approved all across Europe.

Meanings of Abbreviations

C: Cementitious
D: Dispersion Based
R: Reaction Resin Based
1: Standard Performance
2: Improved
T: Thixothropic / Reduced Slip
E: Extended Open Time
F: Fast Setting

TS EN 12002 Determination of Transverse Deformation For Cementitious Adhesives

TS EN 12002 determines the transverse deformation of cementitious adhesives. According to the new deformability classification, S1 represents the adhesives whose deformability is higher than 2,5 mm whereas S2 represents the adhesives whose deformability is higher than 5 mm.

Meanings of Abbreviations

S1: Deformable
S2: Highly Deformable

Standard or high performance ceramic tile adhesives are preferred according to ceramic dimensions and types, surface features and working conditions. Today, the use of low porous ceramics with low water absorption follows an increasing trend. This type of ceramics are generally preferred in floorings as they show high strength, abrasion resistance, chemical resistance and can be used for long terms. Special adhesives are required in order to adhere to this type of nonporous products firmly and for long term. These adhesives should also tolerate the tension between the floor and the ceramics.

Highly deformable adhesives tolerate the tension that occurs between the floor and the tile and that comes out under daily conditions. These tensions can result from the shrinkage of fresh concrete or the fact that tiles and the surface have different coefficients of thermal expansion. Exterior facade applications can be given as example. In summer, sunlight can increase the temperature of the ceramics up to 70°C-80°C. A sudden rain can decrease these temperatures up to 25°C. In such cases, the adhesive between the ceramic and the floor should tolerate a fairly high shearing resistance. Floor heating system is an other application examples. The adhesive has to tolerate a certain amount of tension in this type of application, too.

Due to the fact that S1 and S2 high performance ceramic adhesives modified with special additives can adhere to hard surfaces and are durable against tensions. They resist tight conditions for long terms and allow reliable application.

1051 KALEKİM	C1TE	Cementitious, standard performance, thixothropic, extended open time adhesive
1052 KALEKİM BEYAZ	C1TE	Cementitious, standard performance, thixothropic, extended open time adhesive
1070 KALEKİM TOZUMAZ	C1TE	Cementitious, standard performance, thixothropic, extended open time adhesive
1055 GRANİTECH	C2T	Cementitious, high performance, thixothropic adhesive
1061 RAPİTECH	C2FT	Cementitious, high performance, fast setting, thixothropic adhesive
1066 TECHNOFULL	C2FE	Cementitious, high performance, fast setting, extended open time adhesive
1054 TECHNOFLEX	C2TE / S1	Cementitious, high performance, thixothropic, extended open time deformable adhesive
1060 TECHNOMAX 30	C2TE / S2	Cementitious, high performance, thixothropic, extended open time highly deformable adhesive
1062 TECHNOPOOL	C2TE / S2	Cementitious, high performance, thixothropic, extended open time highly deformable adhesive
1069 TECHNOLIGHT	C2TE / S2	Cementitious, high performance, thixothropic, extended open time highly deformable adhesive
1230 SUPERTECH	D2TE	Dispersion based, high performance, thixothropic, extended open time adhesive
1411 TECHNOPUR	R2T	Reaction resin based, high performance adhesive, thixothropic adhesive
2954 EPOTECH+	R2T	Reaction resin based, high performance adhesive, thixothropic adhesive

The Leading Brand of the European Union Quality Standards in Turkey: Kalekim

TS EN 13888 Standard For Grouts

Grouts are certified according to TS EN 13888 and manufactured in compliance with these standards.

Meanings of Abbreviations

CG: Cementitious Grout
RG: Reaction Resin Grout
1: Standard Performance
2: Improved
W: Reduced Water Absorption
A: High Abrasion Resistance
Different types of adhesives and grouts cause determinative changes during application and in the ultimate performance. The relationship between these different features of the adhesives and grouts, application surface and environment conditions (gypsum surfaces, dry or damp environment, fast setting, hot-cold change) are not covered in these standards. Kalekim gives the right information in terms of the application of the product and suitable usage conditions.The performer chooses qualified products by taking into account the effects of the surface and the environment in which the product will be used.

CE Certificate

CE Marking is a marking which shows that the products will not harm the lives and commodities of humans, the existence of plants and animals and the environment should it be used in the scope of their intended use, in other words, the product is a reliable product. It states that the industrial products are manufactured in compliance with the related technical regulations and this compliance is certified by the manufacturer or notified bodies. CE Certificate shows the compliance with the requirements of the European Union. This standard is a requirement for all construction materials in EEA (European Economic Area).

CE

2000 FUGA	CG2A	Cementitious, high abrasion resistant grout
2200 ULTRAFUGA	CG2WA	Cementitious, low water absorbent, high abrasion resistant grout
2300 - 2600 FUGAFLEX	CG2WA	Cementitious, low water absorbent, high abrasion resistant grout
2500 ULTRAFUGAFLEX	CG2WA	Cementitious, low water absorbent, high abrasion resistant grout
2900 FUGAPOOL	CG2WA	Cementitious, low water absorbent, high abrasion resistant grout
2954 EPOTECH+	RG	Reaction resin grout
2955 FUGASİM	RG	Reaction resin grout

TS EN 1504-2 Surface Protection Systems for Concrete - Waterproofing Materials

İZOFLEX	MC, IR – C	Moisture control, increasing resistivity by limiting moisture content , coating
İZOLATEX	MC, IR – C	Moisture control, increasing resistivity by limiting moisture content , coating
İZOLATEX PLUS	PI, MC, IR – C	Protection against ingress, moisture control, increasing resistivity by limiting moisture content , coating
İZOLATEX UV	PI, MC, IR – C	Protection against ingress, moisture control, increasing resistivity by limiting moisture content , coating
ELASTİKOR	PI, MC, IR – C	Protection against ingress, moisture control, increasing resistivity by limiting moisture content , coating
DUREX	MC , IR –H	Moisture control, increasing resistivity by limiting moisture content , hydrophobic impregnation

TS EN 1504-3 Repair Mortars for Concrete

TAMİRART W	R1	Non-structural repair mortar
TAMİRART 5	R2	Non-structural repair mortar
TAMİRART 30	R2	Non-structural repair mortar
TAMİRART S40	R4	Structural repair mortar
GROUTART	R4	Structural repair mortar