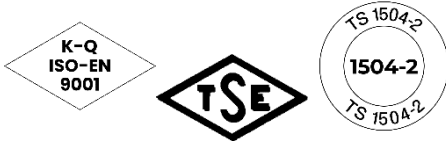


TECHNO KRAFT[®] SURFACE HARDENER

DESCRIPTION

Cement based, quartz and silica aggregate, polymer reinforced, ready to use concrete surface hardener that can be applied by sprinkling in powder form.



TS EN 1504-2-Products and systems for the protection and repair of concrete structures-Part: 2-Concrete surface protection systems
Surface improvement-Physical resistance

USAGE PLACES

- Indoors and outdoors,
- In warehouses, factories, workshops
- Shopping centres, restaurants,
- It can be used in loading and unloading areas, car parks and floors with rubber wheeled vehicle traffic.

POINTS TO BE AWARE OF

- It cannot provide long-term hardness on floors with iron wheeled vehicle traffic.
- Ambient and ground temperature should be between +5 °C / + 25 °C during application.
- In coloured surface hardener applications, less than 8 kg/m² powder should be used. Otherwise the surface will have a light colour tone.
- The most important point to be considered in applications is that it is necessary to act according to the quality and type of concrete, weather and ambient conditions. Application speed increases in hot weather and slows down in cold weather. Concrete setting time should be followed for the correct application time.
- Applicators should be experienced and skilled in surface hardeners.
- Surface hardeners are only intended to increase the abrasion and impact resistance of the surface to be applied. It does not increase the strength of concrete (tensile, bending, pressure).
- Cracks that will occur on the surface of the screed concrete after faulty application are reflected on the surface hardener.
- Never add water to the surface on which surface hardener is applied.
- Surface hardeners of the same colour may produce different colours in different concrete structures. Colour differences during drying is normal and expected.
- At low humidity (below 40%) flowering may occur on the surface, at high humidity (above 80%) sweating may occur. With high humidity, the setting time of the concrete is prolonged and therefore the finishing process time is also prolonged.
- It is recommended to use protective gloves during applications. For more detailed protective measures, please refer to the material safety data sheet of the product.

ADVANTAGES

VARLIK MINERAL GEOTHERMAL ENERGY MINING CONSTRUCTION TRADING CO.

CENTRE: Beştepe Mah.No:1/113 Yenimahalle/Ankara

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- Powder form. Can be coloured.
- Easy to apply on freshly polished slab concrete.
- Contains quartz aggregate and has high freeze-thaw resistance.
- Provides long-term UV resistance when applied correctly.
- The strength (surface hardness) of the surface where hardener is used increases 2-4 times compared to normal concrete.
- Resistant against frost preventive salt effect.
- Absorbency of the concrete surface against impacts, oil and similar chemicals is reduced, dusting is prevented and the surface is easily cleaned.

SURFACE PREPARATION

The concrete to which the surface hardener will be applied must have sufficient compressive strength (at least C25 or 350 dosage concrete), thickness of at least 10 cm and water/cement ratio between 0,45-0,55. After the necessary compaction and surface smoothing operations for the concrete (the surface should be smoothed with a wooden trowel), the application can be started. Allow the evaporation of the transpiration water of the fresh concrete before surface hardener application. When stepping on the concrete, the application should be started after it has set to the extent that a person will not sink into it and leave a 5-8 mm footprint.

USAGE MANUAL

Surface hardening material is laid in two stages. The perspiration water of the concrete on the surface is removed. Approximately 2/3 of the amount of material to be used is sprinkled on fresh concrete (**after the concrete has set to the extent that a person will not sink into it and leave a 5-8 mm footprint when stepping on it**) by ensuring equal distribution of the **surface hardening** material on the surface. The material moistened with the water of the concrete (generally the surface hardener changes colour after taking the water) is fed into the fresh concrete by disc trowelling and the first correction is made as long as the fresh concrete allows. If there is looseness or concrete slurry on the surface after the application, this indicates that the concrete is still fresh and the application is in a hurry. Wait for a while before continuing the application. After the first application, the remaining 1/3 part is sprinkled on the concrete and finishing is continued vertically. The final finishing finish is achieved by adjusting the trowel and blade angle (helicopter blades are set to minimum angle and the surface is polished) and the concrete is integrated with the helicopter trowel until the desired smoothness is obtained. Applying the hardening material in this way will ensure that the hardener forms a monolithic layer on the surface.

Surface hardener sprinkled carelessly or from a distance will spoil the appearance of the surface. Never add water to the surface on which the surface hardener has been applied. should not be used.

After the surface hardener application is completed, curing process should be carried out with suitable curing materials in order to increase the performance of the surface hardener and to prevent cracking and dusting. It is very important to choose the appropriate curing material and application time correctly for the curing process. The curing process should be carried out immediately after the concrete has set to the extent that the surface of the concrete does not deteriorate or after the removal of the moulds. Curing material shall be applied to the surface by brush and roller. For curing application, the ambient temperature must be suitable for the technical specifications of the material used. The concrete surface should be protected from external factors such as rain and snow for 24 hours during curing applications in open areas. Curing materials may adversely affect the concrete surface after application depending on their chemical structure. Therefore, such curing materials should be removed from the surface after application.

EXPENDITURE

Average 4-8 kg/m² depending on the amount of use and manual dexterity (8 kg/m² should not be used less in colour applications).

TECHNICAL SPECIFICATIONS

Colour	Natural, red, green
Material Content	Portland cement based, contains hard filler and polymer additives.
Capillary Water Absorption and Water Permeability (EN 1062-3)	< 0.1 kg/m ² . h ^{0.5}

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Compressive Strength (EN 12190)	70-80 N/mm ⁽²⁾ (Class II)	
Adhesion Strength (EN 1542)	≥ 0.8 N/mm ²	
Abrasion Resistance (EN ISO 5470-1)	12-15 cm ³ /50 cm ²	
Shelf Life	12 months from the date of manufacture under appropriate storage conditions When not in use, the packaging should be tightly closed and the material should be consumed within 1 week at the latest.	

The above values are valid at +21 °C and 50% relative humidity.

PACKAGING and STORAGE

CODE	PACKAGING
KR-6020	TECHNO KRAFT [®] Surface Hardener/quartz-silica aggregate-natural (25 kg)
KR-6020	TECHNO KRAFT [®] Surface Hardener/ quartz-silica aggregate -red (25 kg)
KR-6020	TECHNO KRAFT [®] Surface Hardener/ quartz-silica aggregate -green (25 kg)

Store the material in its unopened packaging in a dry environment, protected from frost. Do not stack pallets on top of each other, especially in long-term storage.