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Teknogrout Repair

High Fatigue Strength, Flowable Repair Mortar

Appropriate for TS EN 1504 – 3, R4

Product Description

It is a cement based, one component, non-shrink, flowable repair and bedding mortar with very high strength and especially developed for wind turbines.

Areas of Usage

- It is used in fixing wind turbines,
- In machine rails and foundations
- In cold conditions and cold storehouses
- In repairing concrete floors which are exposed to vehicle and pedestrian traffic

Features and Benefits

- It gains strength even at temperatures under zero. Min. +5 ºC
- It is easy to apply since it has flowable property.
- It has broad application areas since it does not shrink
- No decomposition and water formation
- Perfect adhesion and strength
- High application thickness as much as possible by adding aggregate with proper size
- High stiffness and high abrasion resistance
- It works with the old concrete as monolithic since it has high adherence
- Application thickness can be between 10 mm and 150 mm
- It has high protection of reinforcement and carbonation resistance
- It has freeze-thaw resistance.

Application Instructions

Surface Preparation: The surfaces must be clean, smooth, solid, free from any antiadhesive substance such as dust, oil, dirt, rust, mold oil, detergent and waste. The repairing corners should be cut vertically with 10 mm deepness. The reinforcements should be changed with the new ones because of structural reasons if they have serious damageor the cross sections are below the necessary safety limit. When auxiliary reinforcement is applied, the thickness of the reinforcement should be 2 cm minimum. The surface ice should be melted completely before TEKNOGROUT REPAIR is applied. Even if TEKNOGROUT REPAIR is applicable at low temperatures as +5ºC, the surface temperature should be higher than +5ºC and lower than +35ºC. Absorbent surfaces should be wetted in advance but there should not be any remaining water drops.
Mixing: 3,5-4,0 lt clean, clear water is added into a clean container which is free from all kinds of materials that prevent adhesion. 25 kg TEKNOGROUT REPAIR is poured into the container filled with water. The product is mixed with a low speed mixer until a homogeneous mixture without lumps is obtained. The mixing time should be 3 minutes minimum. The mortar obtained at the end of this process should be placed immediately. After the reaction of the material complete, it should not be mixed again with water.
The mixture should be placed in 2.5 min. depending on the temperature and the amount of water. TEKNOGROUT REPAIR should be poured from one side to fill the gaps surrounded on four sides and covered. So it discharges air and prevents gaps. It can be pushed from one side with a long piece of iron during casting to speed up the flow.

The thickness of the casting should be between 10 mm and 150 mm layer thickness at a time. It is recommended to carry out a preliminary test if small diameters anchors will be used.

For applications thicker than 150 mm, it is possible to add aggregates with the diameter of 5 – 12 mm at a rate of 30 % of the material. Aggregate addition can be done by two ways;

- The aggregate is added into prepared mortar. The addition continues until a homogeneous mixture is obtained.
- Aggregate is poured or spread on the application floor. Then, the prepared TEKNOGROUT REPAIR mixture is poured onto it. The self-leveling mortar surrounds all around the aggregate and a high strength cement is obtained.

Application Notes / Restrictions

- The reaction times of cement based products are affected by the air and surface temperatures. The reaction times decrease in warm conditions and increase in cold conditions.
- Hot water should be used in cold conditions.
- Cold water should be used in warm conditions.
- During the application of the product, work clothes suitable for occupational health and safety rules should be worn and appropriate glasses and masks should be used.
- The prepared mixture should be placed in 5 min. depending on the temperature and the amount of water.
- Do not apply at temperatures below +5 ºC and above +35 ºC.
- Do not apply TEKNOGROUT REPAIR if it is expected for the temperature to decrease below +5 ºC during the application or during 24 hours after the application.
- After the application, it must be protected from the bad weather conditions such as direct sunlight, strong wind, high temperature (above +35 ºC), rain and frost. The product should be cleaned thoroughly with water and detergent before it is fully cured and hardened.
- After the application, the equipment should be cleaned immediately with water before the product is hardened. If the product is hardened, the equipment should be cleaned by mechanical methods.

Technical Data

General Information	
Appearance	Grey
Shelf Life	12 months in unopened package in dry conditions
Package	25 kg kraft bag
Grain Size	Dmax : 3.0mm
Application Information	
Application Surface Temperature	(+5°C) –(+35°C)
Mixture Ratio	3,5 – 4,0lt water/25 kg powder
Application Thickness	10 mm – 150 mm
Workability Time	Max. 15-20 min.
Mortar Density	2,3 ± 0,10 kg/lt
Performance Information	
Shrinkage	<0,20mm/m
Pressure Resistance	1day : ≥ 50 N/mm² 28 days: ≥ 90 N/mm²
Temperature Resistance	500°C
Tensile Strength	> 2,0 N/mm²
Chloride Ion Content	0,05 %
Elastic Modulus	> 30 GPa
Capillary Water Absorption	< 0,1 kg/(m²h0,5)

Values are obtained in +23°C and %50 relative humidity conditions. Higher temperatures decrease the time, lower temperatures increase the time

Consumption Table

TEKNOGROUT REPAIR	**Mixture Density (kg/lt)**	**1m3 Powder Consumption for Fresh Mortar(kg)**	**Amount of Mixture Water (lt)**
25 kg kraft bag	~2,3	~2,0	3,5 – 4,0