



STERLING TechnoCrete® URP K10

Multipurpose SBR Latex for Bonding Cement Mortar, Concrete Repair & Waterproofing Slurry

Description:

TechnoCrete® URP K10 is a styrene butadiene polymer latex with high bonding characteristics. It is stable under wet alkaline conditions forming a reinforcing polymer matrix within cementitious mixes including concrete, screed and mortar. It is mixed with cement mixture to give higher adhesion power to all surfaces, extra bonding strength, excellent plasticity, higher impermeability and flexure resistance, higher abrasion and acid resistance. TechnoCrete® URP K10 reduces the mixing time through high dispersion of the polymer and improves waterproofing when mixed with cement, new to old concrete/plaster bonding and strength characteristics and reduces shrinkage and cracking of the mix.

Application:

- TechnoCrete®URP K10 is used as bonding concrete additive, as repair mortar for plaster and also for treatment of columns and roofs.
- It can also be used for waterproofing of Basements side walls and rafts, lift pits, inspection pits, sunken/overhead water tank, sunken portions of bathrooms and toilets, balconies, chajjas, exposed roofs before finished screed and fixing of bricks/tiles.
- It can be extensively used as bonding agents for cold joints, for old-new and old-old concrete surfaces.
- Especially used at bridge decks, overlaying of any concrete on concrete surface.
- Effective for areas having high humidity or immersed in water.
- Can also be used as a protective coat on concrete plaster.

Features & Benefits:

- Excellent adhesion to concrete, stonework, masonry, etc.
- Mortar modifier- Mortar that contains TechnoCrete®URP K10 provides higher compressive and flexural strength with waterproofing effect Reduce permeability which helps to reduce attack by chemicals Improves cohesion and workability.
- Shrinkage/crack control- Reduces shrinkage and cracking in repair and screed mixes.
- Good freeze / thaw resistance
- Corrosion control-Prevents corrosion of embedded steel.
- Non-toxic, can be used with concrete in potable water tank.
- Improves physical/mechanical properties-higher abrasion resistance, good adhesion to building materials similar thermal characteristics to concrete.

Method of Application:

Surface preparation

Remove all loose concrete, grease, moulds oil or curing compound from concrete and steel surfaces using wire brush, scrubber. Prior to application of TechnoCrete®URP K10, ensure to clean the substrate which should be free from all the dust, foreign particles, loose aggregate and oil grease etc. This can be done with the help of scarifying, grinding, water jetting and sand blasting etc. The surface should be wetted, well prior to application, thoroughly with water to get SSD condition. All the depression or pin holes /pot holes to be repaired, Saw cut the concrete areas to a square or rectangular profile to a minimum 10mm depth at the extreme edges. Roughen the surface free of loose particles and dust and saturate with water. Remove excess/standing water.

For bonding slurry

- Mix 1½ parts cement to 1 part TechnoCrete®URP K10 by weight of cement.
- Mix to a lump-free creamy, consistency for 2-3minutes by slowly adding TechnoCrete®URP K10.
- Using a stiff brush, work the bonding slurry well into the damp surface. When the bond coat is tacky apply mortar, screed overlay.

As waterproofing slurry

- Mix good quality OPC Cement with TechnoCrete®URP K10 in ratio of 1:1 (1 parts of OPC: 1 part TechnoCrete®URP K10 by weight, (always add powder to liquid for all applications).The mix should be stirred thoroughly until smooth homogeneous paste is obtained. Apply first coat over SSD condition substrate as a primer bond coat. Mix good quality OPC Cement with TechnoCrete®URP K10 in ratio of 2:1 (2parts of cement: 1 part TechnoCrete®URP K10) by weight, (always add powder to liquid for all applications) and apply second coat over the primed surface using a nylon brush or paint roller.
- Apply and unroll TechnoFix® GFM-fibre mesh evenly on the wet coating before it dries out on larger areas.
- Using a nylon brush, apply 3rd coat of TechnoCrete®URP K10 coating in ratio of 2:1 (2 parts of cement : 1 part TechnoCrete®URP K10) by weight, over the fiber mesh so as to cover the fabric, allow 5-6 hours of air drying before application of 3rd coat of TechnoCrete®URP K10 slurry coating over the surface if required.
- Provide polymer modified protective plaster of 15-20 mm thick over the coating to ensure safety from mechanical damage.

Curing:

- Moist curing should be done for a period of 3 days by spraying / sprinkling of potable water after about 6 hours from the time of application of the final coat. After moist curing the coating shall be allowed to dry before submersion in water.
- Do not allow the rapid drying of the coating by covering the coating with help of polythene sheet in case of high humidity and windy condition.

Screeds and toppings, applied to horizontal surfaces

- Application thickness 10mm to 100mm.
- The TechnoCrete®URP K10 modified mix should be placed over the still wet bonding slurry, well compacted by hand and trowelled to finish using a wooden float or steel trowel.

Mix Design for Various repair application

Mix Design	TechnoCrete®URP K10	Cement	Sieved Sand	Coarse aggregate (6mm down)	Water
For Repair Mortar	10 Kg	50 Kg	150 Kg	Nil	10 litres
For Floor Topping/Screened	10 Kg	50 Kg	75 kg	75 kg	10 litres

Mixing Process Mortar/Screened

- Use fresh, lump free cement, well graded sand/aggregates free of excessive fines.
- Mix sand and cement and coarse aggregate in Pan Type mixer for 1 - 2 minutes. Hand mixing is only permissible when the total weight of the mix is less than 30 kg.
- Mix required quantity of TechnoCrete®URP K10 and water for 2 minutes in a separate container, to avoid excessive air entrapment.
- Finally, without delay, add the liquid mix slowly into the mixer containing the mixed powdered sand/coarse aggregate and cement until the required consistency is achieved.

Rendering to vertical surfaces

Apply the bonding slurry to the prepared surface and then apply the TechnoCrete®URP K10 render onto the wet bonding slurry. Application Thickness: 5 to 25mm. Greater thickness can lead to slumping. Apply multiple layers in rapid succession, within 15 to 30 minutes of the previous layer. Finish the surface using a wooden float or steel trowel. Apply modified slurry coat on the first layer in case application of second layer is delayed to long time gaps.

Mixing Ratio for various Application

Mix Design	TechnoCrete®URP K10	Cement	Sieved Sand	Coarse Aggregate (6mm down)	Water	Consistency	Coverage
As Bond Coat	1 Kg	1.5 Kg	Nil	Nil	Nil	Slurry	~ 4 to 4.5m ²
As Waterproofing slurry Coat	1 Kg	2 Kg	Nil	Nil	Nil	Slurry	~ 2 m ² in two coats
As Repair mortar		5	15	Nil	As per mix design	Thixotropic	10 Kg of TechnoCrete®URP K10 per 50kg of cement.
Floor Screeds / PCC Topping		5	7.5	7.5	As per mix design	Thixotropic	20% of TechnoCrete®URP K10 by weight of cement.

Properties of Polymer modified mortar					
Mortar proportioning	Cement	Quartz Sand (Zone II)	TechnoCrete®URP K10	Water	Fresh wet density
	50 Kg	150 Kg	10 KG	10 litres	~ 2000-2200 kg/m ³
Mortar Compressive strength* (ASTM C 109), 70*70*70 cube				~ 40MPa at 28days	
Mortar Flexural strength* (ASTM C 348)				~ 10MPa	
Mortar Tensile strength* (BS 6319,pt.7)				~ 5MPa	
Adhesion for Bond Coat (ASTM D 4541)				>1.5MPa or concrete failure.	
Water permeability for waterproof coat (DIN 1048)				Nil at 5 Bar	
Properties					
Appearance before mixing with cement			Milky white liquid		
Appearance when mixed with cement			Grey		
pH value			>7		
Relative density			~ 1.02 +/- 0.01 at 25°C		
Application temperature			Above 10°C to 40°C		
Packaging			TechnoCrete®URP K10 is supplied in 30 Kg, 50 Kg & 235 Kg barrel packing.		
Storage:			TechnoCrete®URP K10 has a shelf life of 24 months if remained unopened, stored in cool dry place.		

Health and Safety instructions

TECHNOCRETE®URP K10 is non-toxic. Gloves and goggles should be worn. Any splashes to the skin or eyes should be washed off with clean water. In the event of prolonged irritation, medical advice should be sought. Should use a dust mask while handling the powder.

Disclaimer: The product information & application details given by the company & its agents has been provided in good faith & meant to serve only as a general guideline during usage. Users are advised to carry out tests & take trials to ensure on the suitability of products meeting their requirement prior to full scale usage of our products. Since the correct identification of the problems, quality of other materials used and the on-site workmanship are factors beyond our control, there are no expressed or implied guarantee / warranty as to the results obtained. The company does not assume any liability or consequential damage for unsatisfactory results, arising from the use of our products.

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STERLING TECHNOTRADE INDIA PRIVATE LIMITED

The Specialist Construction Chemical Company®

Head Office: 109-111-112, 1st Floor, Vijaya Building, No. 17, Barakhamba Road, Connaught Place, New Delhi- 110001

Manufacturing Unit: Plot No-J-3, UPSIDC Site C, Surajpur Industrial Area, Greater Noida, Uttar Pradesh 201306

WEB: sterlingtechnotrade.com | **EMAIL:** support@sterlingtechnotrade.com | **TEL:** 01145084212