



## TechnoCrete<sup>®</sup> URP K10-M

Multipurpose SBR Latex for bonding Cement Mortar, concrete repair & waterproofing slurry.

### Description:

TechnoCrete<sup>®</sup>URP K10-M 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<sup>®</sup>URP K10-M 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 Includes:

TechnoCrete<sup>®</sup>URP K10-M can be used for following application-

- TechnoCrete<sup>®</sup>URP K10-M 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<sup>®</sup>URP K10-M provides higher compressive and flexural strength with waterproofing effect Reduce permeability which helps to

### 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<sup>®</sup>URP K10-M, 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<sup>®</sup>URP K10-M by weight of cement.
- Mix to a lump-free creamy, consistency for 2-3minutes by slowly adding TechnoCrete<sup>®</sup>URP K10-M.
- 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<sup>®</sup>URP K10-M in ratio of 1:1 (1 parts of OPC: 1 part TechnoCrete<sup>®</sup>URP K10-M 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<sup>®</sup>URP K10-M in ratio of 2:1 (2parts of cement: 1 part TechnoCrete<sup>®</sup>URP K10-M) 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<sup>®</sup> GFM-fibre mesh evenly on the wet coating before it dries out on larger areas.
- Using a nylon brush, apply 3rd coat of TechnoCrete<sup>®</sup>URP K10-M coating in ratio of 2:1 (2 parts of cement : 1 part TechnoCrete<sup>®</sup>URP K10-M) 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<sup>®</sup>URP K10-M 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<sup>®</sup>URP K10-M 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.

#### Curing

Moisture cure for 24 hours and then allow to dry slowly

Mix Design for Various repair application

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.

## Health and Safety instructions

TECHNOCRETE®URP K10-M 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.

## Precaution & Limitations

TechnoCrete®URP K10-M should not be used in isolation of cement. TechnoCrete®URP K10-M shall be applied to the substrate temp above 10°C to below 40°C. Ensure to provide a protective plaster over the final coat to avoid mechanical damage.

**Additional Information:** Techno Builders Solutions® By Sterling Technotrade India Pvt.Ltd -The Specialist Construction Chemicals Company® range of associated products includes high performance concrete Admixtures, Adhesives, Protective Coatings, Concrete Repairs, Industrial Flooring, Grouts & Anchors, Joint Sealants, Surface Treatments, curing compounds, repair mortars, release agents, Grinding Aids & Waterproofing.

\*Separate datasheet are available on these products.

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

## Mixing Process Mortar/Screed

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

Mortar proportioning	Cement	Quartz Sand (Zone II)	TechnoCrete®URP K10-M	Water	Fresh wet density
	50 Kg	150 Kg	10 KG	10 litres	~ 2000-2200 kg/m <sup>3</sup>
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	

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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-M is supplied in 30 Kg, 50 Kg & 235 Kg barrel packing.
Storage:	TechnoCrete®URP K10-M has a shelf life of 24 months if remained unopened, stored in cool dry place.
*Properties are of typical mix and guiding in nature, and may vary depending upon mix constituents. We strongly advises to carry out site mix design and site trials.	