TIKI CRM

Shrinkage Compensated High Strength Repair Mortar

DESCRIPTION

TIKI CRM is single component shrinkage compensated cementitious powder for use as high strength repair mortar.

It is specially designed for locations where high compressive strengths coupled with high resistance to chloride ion penetration and carbon dioxide diffusion is required.

TIKI CRM is a single component system requiring only addition of prescribed quantity of clean water at job site.

ADVANTAGES

- Excellent bond to concrete substrate.
- Low permeability – imparts maximum protection to concrete against carbon dioxide diffusion and chloride penetration.
- Chloride free
- Shrinkage compensated – offers long term dimensional stability to the hardened mass.
- Good resistance to freeze-thaw cycles.
- Low water content ensures quick strength development and high ultimate strength.

USES

- Fast repair and re-instatement of spalled and honeycombed concrete.
- Repairs to building facades, parking structures, industrial plant, bridge decks and other probable areas requiring concrete repair.
- Structural repairs to beams, columns, and slabs.
- Repairs to overhead and vertical concrete sections, walls at all grades (below grade, above grade and on grade repairs).
- Filling large routed out cracks.
- Patching of tie holes and bug holes.

PROPERTIES*

Property @ 28^{O}C	Value
Compressive Strength 1 Day 28 Days	 ≥13 mPa ≥48 mPa
Flexural Strength @ 28 Days	≥8 mPa
Water Absorption after 24 Hours	0.50%
Initial Setting Time @ 30^{O}C	≈3:30 Hours
Final Setting Time @30^{O}C	≈5 Hours
Chloride Content	Nil
Depth of Carbonation (Acceleration Tes up to 4 Hours)	Nil
Water/Powder Ratio	0.13 to 0.14

*The data shown above reflects typical results based on laboratory testing under controlled conditions. Reasonable variations from the data shown may result from field trials.

APPLICATION METHODOLOGY

SURFACE PREPARATION

The surface must be sound, free of all dirt, dust, debris, laitance, oil, and grease, traces of curing compounds, paints, asphalt and other contaminants, which may compromise bonding of repair mortar with the substrate.

Remove all loose material using water and oil free compressed air or vacuum system.

Non-porous surfaces can be mechanically abraded by using sand-blasting, shot-blasting or scarification methods to provide keyed surfaces to enhance the bond development.

Acid etching of non-porous concrete surface is generally not recommended, as left-over traces of acid would compromise the bond development with the substrate.

All concrete surfaces should be chiseled back to sound concrete prior to repair.

Expose fully any corroded steel in the repair area and remove all scale and corrosion deposits mechanically or ideally by grit blasting.

Concrete surface should be pre-wetted to prevent rapid moisture loss from the laid repair mortar mix. Normally 1 to 2 hours saturation period is sufficient. Before product application, remove all free-standing water from the surface.

MIXING

TIKI CRM is most easily mixed using mechanical drill attached with agitator blade or mortar mixer to achieve smooth consistency.

Add recommended water while maintaining w/p ratio (0.13 to 0.14) in to the mixer and then gradually add **TIKI CRM** powder from the supplied bag under continuous stirring till a lump free, smooth, homogeneous mix is obtained.

Do not mix part bags and avoid off-ratio mixing to avoid mixing errors.

Do not use excess water to the mix. It would result in bleeding and segregation in mix.

Use the mix within 20 to 30 minutes of mixing, depending upon the ambient temperature and humidity.

METHOD OF APPLICATION

If the re-bars are exposed, apply zinc rich epoxy anti-corrosive primer over the well cleaned re-bars and allow to dry. Over the well-prepared concrete surface, apply slurry coat of **DANOCRET AR** mixed with cement in 1:1 ratio by weight and @4 to 6 m^2/Kg., to enhance the bonding of subsequent layers.

Apply prepared mix of **TIKI CRM** to the substrate using trowel, when the slurry bond coat is wet, filling all pores and voids. Compact well and force the repair mortar against edge of repair working towards the centre. Thoroughly compact the mortar around exposed reinforcement.

Finally finish the applied mortar with steel / wood floats or damp sponges, depending on the desired surface texture.

TIKI CRM can be applied up to 150mm thickness on horizontal planes. Thicker sections can be built up in layers. The repair mortar should not be applied below 5mm thickness.

For application in multiple layers, allow the first layer to harden before proceeding for subsequent layer. The previous harden layer should be slightly scratched to provide a mechanical key for bonding subsequent layers.

TIKI CRM can be applied in 10 to 15mm thickness on vertical plane without the use of formwork. Greater thickness up to 100mm can be achieved in small pockets or by the use of formwork

POST-PLACEMENT CURING

Curing should commence as soon as final set has occurred and finishing is completed, but before the treated surface begins to dry and should continue for at least 7 days.

Wet curing of applied system as per basic curing procedure would be beneficial.

Rapid drying of applied system should be prevented by covering it with polyethylene sheet for at least 7 days

LIMITATIONS

TIKI CRM should not be used when the temperature is below 5°C and falling.

The product should not be exposed to rising / moving water during application.

The applied mortar should be protected from rainfall prior to the final set, otherwise surface scour may result.

CLEANING

Immediately after application, use water for cleaning application tools. Cured material can be removed mechanically or by using acid-etching process.

SUPPLY

TIKI CRM is supplied in 25 Kg. pack size.

STORAGE

TIKI CRM must be stored above 5°C. Store under the shed & protect from extremes of temperature, heat, direct sunlight. The shelf life is 6 months in sealed unopened packing.

SAFETY PRECAUTIONS

As with all chemical products, care should be taken during use and storage. This product becomes alkaline when mixed with water, avoid contact with skin, eyes, mouth and food. For further detail, refer to Material Safety Data Sheet.

VERSION: R2, 202203

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