

K2 KOREFIX

Resin Bonded Cementitious Grout System

Description:

- KOREFIX is a system comprising a brush-applied epoxy resin primer and a high strength cementitious non-shrink grout. The system is designed to enhance bond strength between existing concrete substrates and newly placed grout while ensuring dimensional stability, load transfer, and durability under static and dynamic conditions.
- The epoxy resin primer acts as a bonding interface, while the cementitious grout provides high early and ultimate strength with controlled expansion characteristics.

System Components

- **KOREFIX ER (Resin Primer)**
Solvent-free, two-component epoxy bonding agent.
- **KOREFIX NS Grout**
Pre-packed, free-flow, non-shrink cementitious grout.
- **BACKER ROD**
Compressible polyethylene foam rod used below the grout around pipes/fittings in core-cut applications.

Area of Application:

- Base plate grouting with enhanced bond requirement.

- Bolt pockets and machine foundations.
- Structural repairs and extensions.
- Crane rails, turbines, compressors, and heavy equipment foundations.
- Grouting where dynamic loads and vibration are present.
- Bridge bearings, industrial flooring, and precision alignment works.
- Core cut / drilled hole grouting for pipe fittings applications.

Benefits:

- Improved bond between substrate and grout via epoxy interface.
- Non-shrink properties with controlled expansion.
- High early and ultimate compressive strength
- Free-flow characteristics ensure complete void filling
- Suitable for dynamic and impact load conditions
- Chloride-free formulation
- Resistant to vibration and mechanical stresses
- Acts as barrier to moisture and chloride ingress.

Technical Properties:

Resin Primer (KOREFIX ER)

Properties	At 20°C	At 30°C
Pot life	5 - 6 Hours	2 -3 Hours
Full cure	7 Days	5 Days
Overlay Time	10 Hours	6 Hours
Compressive Strength	50 N/mm ² @ 7 days (BS6319 Pt2)	
Flexural Strength	35 N/mm ² @ 7 days (BS6319 Pt2)	
Tensile Strength	20 N/mm ² @ 7 days (BS6319 Pt2)	
Shear Strength	10 N/mm ² @ 7 days (BS6319 Pt2)	

Cementitious Grout (KOREFIX NS Grout)

Properties	Results
Water Ratio	1 kg of K2 KOREFIX NS Grout will require 165 ml water for pourable consistency (W/P – 0.165) and 180 ml water (flowable) consistency (W/P – 0.18).
Flow	17 - 22cm [Flow tested as per BS: 4551 Part – 12, 1980-315% at flow consistency]
Physical Appearance	Grey colored powder.
Application Temperature	10 °C to 40 °C.
Pourable Life	20 minutes
Yield per 1 kg	0.527 ltr
Mixed Density	2220 kg/m ³
Tensile Strength	3.5 N/mm ² @28 days
Pull Out Bond Strength	17 N/mm ² @ 7 days 20 N/mm ² @ 28 days
Time for Expansion (After Mixing)	Start 20 Minutes & Finish : 120 Minutes
Unrestrained expansion	Maximum 2% in the plastic state enables to overcome shrinkage.

Compressive strength: (BS 1881 – Part 116:1983)

Compressive strength (N/mm ²)		
Age (days)	Consistency	
	Flow able (W/P 0.18)	Pourable (W/P 0.165)
1	24	26
3	45	51
7	55	57
28	65	68

Compressive strength with addition of aggregates

Compressive strength (N/mm ²) (W/P 0.18)			
Age (days)	% of aggregates (IS 516 – 1959)		
	50 %	75 %	100 %
1	28	30	32
3	50	52	55
7	60	63	68
28	70	75	78

Flexural strength (BS 4551, 1998)

Flexural strength (N/mm ²)	
Age (days)	Consistency
	(W/P 0.18)
1	3.0
3	7.0
7	9.0
28	10.0

Application Instruction:

SURFACE PREPARATION

- Substrate must be structurally sound and clean.
- Remove laitance, dust, oil, grease, and loose particles.
- Mechanical preparation (wire brushing / grinding) recommended.

- Pre-soak concrete for 24 hours and bring to SSD condition.

PRIMER APPLICATION (KOREFIX ER)

- Mix Part A (resin) + Part B (hardener) thoroughly (uniform color).
- Apply by brush to form a continuous, uniform film.
- Ensure primer remains in tacky state (open time window).
- Do not allow primer to fully cure before grouting.
- After applying the primer, place the backer rod beneath the pipe or fitting as required to control the grout depth.

Grout Mixing:

- Mixing shall be carried out using a mechanical grout mixer or slow-speed drill with paddle to ensure uniform dispersion.
- Hand mixing is not permitted as it leads to inconsistency and air entrapment.

MIXING STEPS

- Add 80–100% of the pre-measured water into the mixing container.
- Gradually add KOREFIX NS Grout powder while continuously mixing.
- Add remaining water (if required) to achieve desired consistency (pourable/flowable).
- Continue mixing for 3–5 minutes until a homogeneous, lump-free mix is obtained.

Bolt Pockets Grouting:

- Depending on the size of the bolt pockets, 50–100% clean 10mm should be incorporated to economize on grout and also to keep the heat of hydration low.
- When the thickness exceeds 100 mm – 150 mm our technical department may be contacted for advice.
- There must be at least 12 hrs. gap between bolt pocket & under bases plate grouting sequence.

Under Base Plate:

- Leak proof strong formwork must be provided to withstand operational stresses while grouting and all edges must be sealed with KOREFIX NS Grout powder of trowelling consistency to arrest the grout from flowing out of a framework.
- The sealed edges must be strong enough to resist fluid grout (at least 1-2 hours after sealing). Hydrostatic head 150-250 mm must be provided to enable the free flowing of grout under base plate.
- Grouting must be continuous until the cavity is completely filled to the desired level.
- The exposed areas must be kept to a minimum of 100-150 mm on the grouting side and 50 mm on the opposite side.
- All exposed areas must be restricted by covering with wooden planks or polythene sheets with sand sprinkled on top of the sheet to avoid cracks on the grouted surface.

Curing:

- Initial curing after 3–4 hours.
- Maintain moist curing for minimum 7 days.
- Use wet hessian / water ponding.
- Prevent rapid moisture loss and plastic shrinkage cracks.

Limitations:

- Do not apply epoxy below 10°C.
- Grout must be placed within working time window.
- Avoid application on vibrating or flexible substrates during placement.
- Excess water addition may affect strength and durability.

Coverage (Korefix Resin Primer):

Approx. 0.52 m² coverage for 200 g material (subject to surface texture and porosity).

Packing:

- KOREFIX ER is available in a 200 g pack, contains Part A (Base) – 120 g and Part B (Hardener) – 80 g.
- KOREFIX NS Grout: 1 kg

Shelf Life and Storage:

K2 KOREFIX has a Shelf life of 12 Months from the date of manufacturing.

Technical Support:

The company provides a technical service supported by the team of specialist applicators in the industry.

Important Note:

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