

Repair, Reinforcement and Restoration / Epoxy Based Repair, Renovation and Reinforcement Products

REPOX® 301

Thixotropic Epoxy Repair Mortar

DESCRIPTION

Epoxy resin based, three-component, solvent-free, **thixotropic epoxy mortar** for repairing damaged surfaces.

APPLICATION AREAS

- Indoor and outdoor, repairing reinforced concrete structures,
- Abrasion and impact-resistant filling and repairs,
- Sealing of (non-moving) crack fillings and corner repairs,
- As a repair mortar for the maintenance and repair of marine structures (such as piers and bridges) and in high-strength repairs of crane beams and legs,
- Repairing ceilings, columns, and beams.

TECHNICAL PROPERTIES

Appearance and Color	Component A (Epoxy resin): Liquid – Grey Component B (Hardener): Liquid – Light yellow Component C (Special size aggregate): Sand color	
Packaging (5 kg) Packaging (15 kg)	Component A: 0.680 kg, Component B: 0.320 kg, Component C: 4 kg Component A: 2.040 kg, Component B: 0.960 kg, Component C: 12 kg	
Mixture Density	2.00 ± 0.06 g/cm ³ (TS EN ISO 2811-1)	
Application Temperature	Between +10°C and 30°C	
Compressive Strength	≥ 50 N/mm ² (TS EN 12190) 1 day ≥ 85 N/mm ² (TS EN 12190) 7 days	
Flexural Strength	≥ 25 N/mm ² (TS EN 12190) 1 day ≥ 30 N/mm ² (TS EN 12190) 7 days	
Adhesion Strength	≥ 2 N/mm ² - Fracture within the concrete substrate (TS EN 1542) 7 days	
Pot Life (5 kg)	<u>Temperature</u>	<u>Duration</u> (TS EN ISO 9514)
	10°C	120 mn
	20°C	60 mn
	30°C	30 mn
Complete Curing Time	7 days (23°C TS 4317)	
Service Temperature	Between -10°C and +60°C	

ADVANTAGES

- Provides high mechanical strength.
- Highly resistant to abrasion and impact.
- Provides high adhesion to concrete and steel.
- Reisitant to chemicals. Water impermeable.
- Has a high load-bearing capacity. Does not shrink.
- Consistency can be adjusted with its own aggregate, if desired.

CONSUMPTION:

Approximately 2 kg/m² (for a 1 mm thickness)

7.5 L mortar is prepared with 15 kg of product

PACKAGING:

Sets of 5 kg and 15 kg (A+B+C) tin buckets

APPLICATION

PREPARATION OF THE SURFACE

- The surface must be clear of weakly adhered parts and materials which prevent bonding, such as dust, oil, paint, curing agents, detergents and mold release oils and must be dry. Seal the active water leakage with AQUASTOP Rapid-Setting Plugging Mortar and ensure the surface is dry.
- Cut the edges of the broken-out repair area perpendicular to the surface, forming square or rectangular sections where possible. Open V-groove profile cracks. For wide cracks, reinforcement with fiberglass mesh is recommended.
- Remove the dust, dirt, and loose concrete particles on the surface using a brush or compressed air.
- If the application surface is concrete, it must be fully cured (28 days) and have a minimum compressive strength of 25 N/mm² and a tensile strength of at least 1.5 N/mm².
- If the application surface is metal, it must be free from rust and oil and should be sandblasted.
- The moisture content of the concrete surface must not exceed 4%, and the surface temperature must be at least 3°C above the dew point. The surface temperature should be between +10°C and +30°C.
- Where necessary, the surface may be primed with REPOX A Solvent-Free Epoxy Surface Primer prior to application.

MIXTURE

REPOX 301 is supplied as a three-component system packaged in appropriate proportions. Before mixing, mechanically pre-mix Component A in its own container and then transfer it into the mixing pail. Add Component B (hardener) to Component A (resin) and mix for 1–2 minutes using a low-speed drill with a mixing paddle at 400–600 rpm until a homogeneous consistency is achieved. To minimize air entrapment during mixing, slowly add Component C (aggregate) into the mixture and continue mixing for an additional 3–5 minutes until a uniform consistency is obtained. The components are supplied in the correct mixing ratios. If partial quantities are to be used, the specified mixing ratio must be maintained.

APPLICATION

- Before application, allow the mixture to stand briefly to release any entrapped air.
- Apply the prepared mortar with a trowel onto the primer coat before it has fully cured, at a thickness between 4–50 mm. For horizontal applications, the thickness in a single layer must not exceed 50 mm.
- For vertical surfaces, application thickness may be 15–20 mm. The thickness must not exceed 20 mm per layer on vertical surfaces and 10 mm for overhead applications.
- When applied in layers, ensure that the previous layer has hardened and cured. Re-priming may be required before applying the next layer. Each layer should be well compacted during application.
- Formwork may be required for repair works on ceilings and beams.
- At +23°C, the product completes curing after 7 days and becomes resistant to mechanical loads and abrasive chemical effects.

CAUTION

- Avoid application at temperatures below +10°C and above +30°C.
- Mix with an appropriate mixing drill, do not mix manually or with a trowel.
- The components of REPOX 301 must be mixed in the correct proportions. Do not add water or solvent to the mixture, and do not dilute with thinner or similar materials.

- Bring the materials to the application area at least 24 hours before to acclimate to the environmental conditions.
- The working and curing times of epoxy resin-based products depend on ambient and substrate temperatures. At low temperatures, viscosity increases, resulting in higher consumption. The chemical reaction slows down, extending pot life and working time. At higher temperatures, the opposite occurs.
- If heating is required at the application area, use only electric, warm air-blowing systems.
- Avoid application in areas that are frozen, at risk of freezing within 24 hours, or in areas open to direct sun and wind.
- Do not touch the surface for at least 24 hours.
- Prevent water contact with the surface for 48 hours after application. Otherwise, carbonation may occur. In such cases, sand the surface and reapply a thin coating layer.
- After application, clean all equipment using solvent only. Hardened material can only be removed mechanically.

SHELF LIFE

Expires in 18 months. Store unopened packages in cool, dry environment between +15°C and +25°C. Protect from direct sunlight and freezing. If Component A crystallizes, it can be heated at 60-70°C.

HEALTH AND SAFETY

As with all chemical products, contact with food, skin, eyes and mouth should be avoided during usage and storing. In case of contact, rinse with water. If swallowed by accident, consult a doctor. During the application, work wears, protective gloves and goggles should be used according to the work place health regulations. Do not bring food or beverages in application areas. Do not approach with fire. Ventilate the application areas. Keep out of reach of children.

The application instructions and technical values given for the products have been obtained in accordance with our tests and experiences in accordance with international standards at 23±2°C temperature and 50±5% relative humidity conditions. These values may vary depending on ambient conditions. High temperatures shorten the times, low temperatures lengthen them. Before starting the application, the user should test whether the product is suitable for the application and purpose. FIXA Construction Chemicals Ltd. is not responsible. This Technical Data Sheet remains valid until the next revision is published. FIXA reserves the right to change the values specified in this Technical Data Sheet, provided that the new version is published. It is the user's responsibility to check that the document is up-to-date. Please contact our sales department for more information.