

Waterproofing Systems / Capillary Waterproofing Systems

AQUAFIX EXPAN

High Strength Shrinkage Compensated Structural Waterproofing Repair Mortar

DESCRIPTION

Cement-based, **crystallized** and **shrinkage compensated structural repair mortar** used for filling rod holes, chamfering and segregation repairs on concrete surfaces. It gains high strength in a short time and provides water impermeability with the active chemicals it contains. It is resistant to both **positive** and **negative** hydrostatic pressure. Thanks to its reactive feature, it provides waterproofing on the concrete surfaces on which it is applied throughout the service life of the structure.

APPLICATION AREAS

- Repairing all kinds of concrete in contact with water,
- Filling around tie rod holes and rebar ties,
- Repairs requiring early and high strength,
- Repairing segregated shear wall,
- Horizontal and vertical cold joint repairs and chamfering applications,
- Filling the gaps formed between old and new concrete,
- Filling the core holes,
- Filling the spaces around the installation pipes and elements.

TECHNICAL PROPERTIES

Appearance	Grey colored fine powder
Powder Density	~ 1.40 kg/L
Water Mixing Ratio	2.8 L water / 20 kg powder
Resting Period	5 – 10 minutes
Pot Life	30 – 45 minutes
Application Temperature	Between +5°C and +35°C
Compressive Strength	7 day: $\geq 30 \text{ N/mm}^2$ (EN 12190) 28 day: $\geq 45 \text{ N/mm}^2$ (EN 12190)
Setting Time	~ 40 minutes
Curing Time	2 – 3 days
Service Temperature	Between -20°C and +70°C

ADVANTAGES

- Does not shrink, has a thixotropic consistency.
- Used both in structural repair and waterproofing.
- Used on shear walls, chamfering applications and filling tie rod holes that require waterproofing, completely fills fine cavities with its self-setting feature.
- Does not require primer.
- Provides early high compressive strength.
- Resistant to impacts and vibrations.
- Provides high adhesion to concrete and reinforcement.
- Does not separate from repaired parts.
- Saves time in multi-length works as it cures fast.
- Is reactive, reaction starts when it is in contact with water and moisture, it provides continuous waterproofing.
- Only mixed with water, easy to apply. Surface leveling is easy, provides surface integrity.
- Does not segregate.

CONSUMPTION

Approximately 10 liters of mortar is obtained with 20 kg of AQUAFIX EXPAN.

PACKAGING

20 kg kraft bags

APPLICATION

PREPARATION OF THE SURFACE

- The surface must be clear of weakly adhered parts and dust, oil, tar, bitumen, paint, silicone, curing material, detergent and mold oils that prevent penetration.
- Saturate the surface with moisture, remove the excess water ponding from surface.
- It is recommended that the edges of the area to be repaired to have upright corners such as square or rectangular. Avoid sharp and narrow angles, as well as zigzag corners, as they cause shrinkage stress and cracks, and roughen the surface slightly to allow the material to adhere.

PREPARATION OF THE MORTAR

Add slowly 20 kg AQUAFIX EXPAN powder to 2.8 L water and mix with a 400 – 600 rpm mixer for 3 – 5 minutes until there are no lumps. Leave the mixture to rest for 1 – 2 minutes and mix again before use.

APPLICATION

- For application to the tie rod holes, remove the plastic pipes inside the holes with a drill and wash the inside of the hole with water and remove the dust. Then fill the mortar into the holes by hand.
- If a hyssop is used, open the surface around the hyssop which is cut zero to the concrete surface 3 cm inwards and sideways and wash with water. Fill the mortar into the opened area by hand.
- In all horizontal and vertical cold joints, break the joints with a breaker and wash with water. Chamfer horizontally and vertically when the surface is damp.
- If there are deep segregations on the concrete surface, break these areas to square the corners and clean with water, repair by filling with a trowel while damp.
- Open the cracks wider than 0.5 mm in concrete with squared corners, wash with water and fill with AQUAFIX EXPAN while the surface is damp.
- Active chemicals that react and form crystals while curing will provide waterproofing in the areas where it is applied.

CAUTION

- Avoid application in temperatures under +5°C and above +35°C.
- Be cautious with the amount of water. Use a low rpm drill, do not mix manually.
- Saturate the surface with water avoiding water ponds.
- Avoid application in frozen areas, areas where there is a risk of freezing within 24 hours or open to direct sun and wind.
- Do not add powder and water to the expired mortar.
- Cure with water for 2 – 3 days following the application.

SHELF LIFE

Expires in 12 months. Store unopened packages in dry environments, stacked maximum 10 on a pallet.



Technical Data Sheet (TDS)

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HEALTH AND SAFETY

As with all chemical products, avoid contact with food, skin, eyes and mouth during usage and storage. During the application, use work clothes, protective gloves, goggles and mask in accordance with the occupational and worker health regulations. Consult a doctor if accidentally swallowed. In case of contact with skin, rinse with water. 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.