

## Waterproofing Systems / Capillary Waterproofing Systems

# AQUAFIX® 2K

## Double Component Crystallized Waterproofing Material

### DESCRIPTION

Cement and polymer emulsion based, double component, crystallized waterproofing material which can be applied in both **positive** and **negative** hydrostatic pressure directions. Due to its crystalline properties, it reacts with water, moisture, and free lime present in the concrete structure, forming crystals that fill the capillary voids in the concrete. At the same time, it creates a waterproof layer on the surface of the applied concrete.

### APPLICATION AREAS

- Indoor and outdoor,
- Waterproofing horizontal and vertical surfaces,
- On exposed concrete surfaces,
- On cement-based plasters and screeds,
- Waterproofing against both positive and negative water pressure,
- Waterproofing structures both below and above ground,
- Shear wall insulation,
- Internal waterproofing of underground garage and basement shear walls (negative waterproofing),
- Potable and utility water tanks,
- As a waterproofing material against leaks in balconies, bathrooms, kitchens, toilets and private swimming pools,
- Thermal pools and hot water tanks ( $T \leq 80^{\circ}\text{C}$ ) as well as brine pools,
- Reinforced concrete rain gutters and irrigation channels,
- Waterproofing of silos, tunnels, and similar reinforced concrete structures.

### TECHNICAL PROPERTIES

|                                             |                                                                                            |
|---------------------------------------------|--------------------------------------------------------------------------------------------|
| Appearance                                  | Component A: Grey colored powder<br>Component B: White colored liquid                      |
| Fresh Mortar Mixture Density                | ~ 1,90 kg/L                                                                                |
| Density                                     | ~ 1,08 kg/L (powder density)<br>~ 1,02 kg/L (liquid density)                               |
| Mixing Ratio                                | 3 kg liquid / 25 kg powder / 5,5 kg water                                                  |
| Pot Life                                    | 45 minutes                                                                                 |
| Resting Period                              | 3 – 5 minutes                                                                              |
| Application Temperature                     | Between $+5^{\circ}\text{C}$ and $+35^{\circ}\text{C}$                                     |
| Application Thickness                       | 2 – 3 mm                                                                                   |
| Setting Time                                | Initial Setting Time: 360 minutes (EN 196-3)<br>Final Setting Time: 480 minutes (EN 196-3) |
| Water Vapor Permeability                    | Class I $S_D < 5 \text{ m}$ (Water vapor permeable)<br>(EN ISO 7783)                       |
| Adhesion Strength by Pull-off Test          | $\geq 1 \text{ N/mm}^2$ (EN 1542)                                                          |
| Compressive Strength                        | 27 $\text{N/mm}^2$ (28 days) (EN 196-1)                                                    |
| Flexural Strength                           | 10 $\text{N/mm}^2$ (28 days) (EN 196-1)                                                    |
| Capillary Water Absorption and Permeability | $w < 0,1 \text{ kg/(m}^2 \cdot \text{h}^{0,5})$ (EN 1062-3)                                |
| Waiting Time Between Coats                  | 3 hours                                                                                    |
| Time to Put into Service                    | Min. 7 days (in positive pressure)                                                         |
| Time for Coating                            | Min. 7 days (in positive pressure)                                                         |
| Time for Filling Water Tanks                | Min. 7 days (in positive pressure)<br>Min. 14 days (in negative pressure)                  |
| Service Temperature                         | Between $-20^{\circ}\text{C}$ and $+80^{\circ}\text{C}$                                    |

**ADVANTAGES**

- Can be applied against both **positive** and **negative** hydrostatic pressure.
- Easy to apply with a brush or roller on horizontal and vertical surfaces.
- Resistant to water pressure from both positive and negative sides.
- Integrates with the substrate and deeply penetrates the concrete. The minerals formed after the reaction fill the capillary voids, while also providing surface waterproofing. As it crystallizes within the concrete, it creates a flexible and durable surface layer, ensuring dual protection.
- Free from soda and chlorides, protecting the concrete's steel reinforcements against corrosion.
- Resistant to sudden temperature changes and freeze-thaw cycles once cured.
- Provides seamless and jointless waterproofing.
- No primer is required before application; curing with water is sufficient.
- Allows the concrete to breathe as it is air and water vapour permeable. Prevents dampness and odor.
- Non-toxic and suitable for potable water tanks.
- Due to its reactive nature, it continues to interact with water throughout the lifetime of the concrete, ensuring long-term waterproofing.
- Can be applied to fresh, new, and existing concrete.

**CONSUMPTION**

Against moisture (in 2 coats): 2 kg/m<sup>2</sup>

Against non-pressurized water (in 2 coats): 3 kg/m<sup>2</sup>

Against pressurized water (in 2 – 3 coats): 4 kg/m<sup>2</sup>

Waterproofing from the negative side: Minimum 3 kg/m<sup>2</sup>

**PACKAGING**

Component A: 25 kg kraft bags

Component B: 3 kg plastic jerrycans

**APPLICATION****PREPARATION OF THE SURFACE**

- The surface must be clear of dust, oil, tar, bitumen, paint, silicone, curing material, detergent, mold release oils and efflorescence that prevent penetration.
- Wet highly porous surfaces such as fair-faced concrete and cement-based plaster with clean water and wait until all surface water disappears while keeping the substrate damp.
- Saturate the surface thoroughly with water 24 hours before application and again 2 hours before application.
- Prevent water from pooling on the surface.
- Where necessary, roughen the surface using mechanical methods.
- The surface must be sound, even, free from hollows, broken areas, segregation, formwork defects, and cracks, and must be free from dusting.
- Repair the concrete segregation and static cracks using **AQUAFIX EXPAN High-Strength, Shrinkage-Compensated Structural Repair Mortar**. Repair dynamic (moving) cracks using suitable MS polymer, hybrid, or polyurethane sealants from **FIXA**.
- Fill the tie-rod holes and chamfer horizontal and vertical construction joints with **AQUAFIX EXPAN**. Plug the water-leaking holes with **AQUASTOP Rapid-Setting Powder Plugging Mortar**.
- Seal the expansion joints elastically using **IMPERMO COMBI Expansion Joint Tape**.

**PREPARATION OF THE MORTAR**

- AQUAFIX 2K has two components. Mix one container (3 kg) of the liquid with 5–6 litres of clean water in a suitable container. Apply the mixture obtained by combining the powder and liquid components by brushing or spreading.
- Add the powder of AQUAFIX 2K gradually while continuously mixing.
- After adding one 25 kg bag of AQUAFIX 2K, continue to mix for approximately 3 minutes.
- Use a low-speed mixer (400 rpm) fitted with a suitable mixing paddle.
- Mix until the mortar is homogeneous, lump-free, and have a brushable consistency.

**APPLICATION**

- Apply AQUAFIX 2K by brush or suitable spray equipment.
- Apply 2 or 3 coats. Apply each coat evenly and uniformly, each coat perpendicular to the previous one.
- Wait at least 3 hours for drying between coats; however, the interval between coats should not exceed 24 hours.
- Re-wet the surface if the subsequent coat is to be applied 12 hours or more after the previous one.
- Allow AQUAFIX 2K layer to dry for at least 24 hours where it is used with **BITUMFIX ER 2K Double Component Bitumen-Rubber and Cement-Based Waterproofing Material** for waterproofing shear walls.
- Drinking water tanks should be disinfected with a hypochlorite solution at least 7 days after application and then rinsed with drinking water before being filled. Repeat this procedure once a year.

**CAUTION**

- When applying AQUAFIX 2K by brush to concrete shear walls and cold joints, an ambient temperature between +5°C and +35°C will help ensure optimum product performance.
- Do not apply to frozen surfaces, surfaces at risk of freezing within 24 hours, or areas exposed to direct sunlight or strong wind.
- Do not apply directly to wood, chipboard, plywood, or metal surfaces, or to brick, aerated concrete (AAC), or weak plaster substrates. The product must be applied exclusively to cement-based concrete substrates.
- The formation of minerals within the concrete and the depth of penetration into the concrete depend on the quality of the concrete, the proportion of capillary voids within the concrete, and the absorbency of the substrate. The better the concrete is cured with water, the more effectively the material penetrates into the concrete. Do not use any curing liquid other than water.
- If application to hot surfaces is unavoidable, cool the surfaces with water before application.
- Protect the surface treated with AQUAFIX 2K from direct sunlight, air currents, and frost for 3 days. If necessary, wet the surface and keep it damp.
- For applications from the negative side, do not apply the coating to building elements containing lime; apply on concrete surfaces.
- On surfaces that may be exposed to mechanical impact, apply a protective coat over AQUAFIX 2K.
- Do not add powder or water to mortar that has exceeded its pot life. Mix the mortar frequently during application to maintain a consistent consistency.
- As water pressure accelerates crystal formation and the penetration of AQUAFIX 2K into concrete, structures such as water tanks should be filled with water 24 hours after the application of the final coat of AQUAFIX 2K. Complete waterproofing is generally achieved 7 days after application. Backfilling should be carried out after this period.
- Wear protective goggles and gloves during application.

**SHELF LIFE**

Expires in 12 months. Store unopened packages in dry environments, stacked maximum 10 on a pallet. Shake the liquid component before use and protect against freezing.



## Technical Data Sheet (TDS)

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Page  
4 / 4

### HEALTH AND SAFETY

As with all chemical products, contact with food, skin, eyes and mouth should be avoided during usage and storage. During the application, work wears, protective gloves, goggles and mask should be used according to the work place health regulations. If swallowed by accident, consult a doctor. 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  $23\pm 2^{\circ}\text{C}$  temperature and  $50\pm 5\%$  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.