

# Aquasafe Ultratech

**VARIABLE-RHEOLOGY MINERAL GEL-SOL-GEL ADHESIVE SPECIFICALLY DESIGNED FOR BONDING G-TEX AIRFULL GEOMEMBRANE UNDER CONTINUOUS IMMERSION IN GEODRY WATERPROOFING SYSTEMS FOR SWIMMING POOLS, TANKS AND STRUCTURES IN CONTINUOUS CONTACT WITH WATER, AND FOR THE SUBSEQUENT INSTALLATION OF ALL TYPES OF CERAMIC TILES, PORCELAIN STONWARE, CERAMIC AND GLASS MOSAICS, AND KLINKER.**



## TECHNICAL DATA SHEET - REVISION 01/2024

### DESCRIPTION

AQUASAFE ULTRATECH is a high-performance mineral adhesive with no vertical slip, extended open time and total wettability, formulated with specific hydraulic binders, selected mineral fillers and exclusive polymers that make it particularly suitable for ceramic finishes in structures in continuous contact with water, such as swimming pools, tanks and reservoirs. The perfect combination of high adhesion, high deformability and high water resistance makes AQUASAFE ULTRATECH the specific adhesive for installing G-TEX AIRFULL geomembrane in the waterproofing of swimming pools, tanks and structures in continuous contact with water.

**Conforms to European Standard EN 12004 - Class C2TE S1 - Improved cementitious adhesive (C) (2) with no vertical slip (T), extended open time (E), deformable (S1).**

### FIELDS OF APPLICATION

Thanks to its technical characteristics, AQUASAFE ULTRATECH is used for installing G-TEX geomembranes both in new construction and refurbishment work, on cementitious substrates or over existing flooring. The perfect combination of high adhesion and high deformability, even under particular climatic conditions, makes AQUASAFE ULTRATECH suitable for the continuous-immersion installation of G-TEX AIRFULL geomembrane and for the subsequent installation of a wide range of finishing materials such as ceramic, porcelain stoneware, ceramic and glass mosaics, glass and natural stone.

### SUBSTRATE PREPARATION

The substrate to be waterproofed must comply with the requirements of UNI 11493 concerning curing, integrity, mechanical and surface strength, dimensional regularity, moisture and absence of contaminants. Regardless of the type of substrate, for proper waterproofing all details must be carefully considered, such as drain positioning, treatment of floor-to-wall junctions, internal and external corners, and any structural joints present.

#### **Cementitious screeds**

Provide suitable slopes and any necessary drains to ensure proper water drainage. Cementitious screeds must have completed hygrometric shrinkage, estimated at at least 28 days; they must be dry with a

moisture content below 4%, flat, sound, compact, free of loose parts, dust, grease and any material that could impair perfect adhesion of the adhesive.

Level any irregularities using specific GEODRY products.

Highly porous, absorbent and powdery surfaces must be consolidated with an adhesion promoter.

### **Ceramic flooring**

Floors must be sound, resistant, well bonded, dry and clean from residues of previous work and anything that could impair adhesion, such as oils, grease and waxes.

Remove any loose tiles and level the surface with specific COLMEF products.

For correct cleaning, wash the old flooring with a solution of water and caustic soda (30%) and rinse thoroughly with water to remove all residues.

### **Concrete**

Concrete surfaces must be compact, cured, sound, dry and clean, free from loose parts, dust and traces of form-release oils.

Where deteriorated concrete structures are present, remove loose concrete (hydrosandblasting or high-pressure washing is recommended) and then clean oxidized reinforcement bars. For active and passive protection, treat with BETOFER 1 K single-component thixotropic mineral mortar. Restore the original concrete volumes and regularize the surface with fiber-reinforced mineral mortars from the BETOCER range.

At high temperatures or on particularly dry substrates, lightly dampening the concrete before applying the adhesive may be useful.

## **ADHESIVE PREPARATION**

To obtain a fluid consistency suitable for full-wetting installation of G-TEX AIRFULL geomembrane, pour about 7 litres of clean water into a clean container for each 25 kg bag of AQUASAFE ULTRATECH. To obtain a thixotropic consistency suitable for installing ceramic materials, use about 6.5 litres of water for each 25 kg bag of AQUASAFE ULTRATECH. Mix, scraping from the sides and bottom of the container any powder that is not fully dispersed, until a homogeneous, lump-free paste is obtained. Let the mix stand for a few minutes, then remix briefly before use.

## **APPLICATION**

### **Installation of G-TEX AIRFULL geomembrane for waterproofing swimming pools, tanks and structures in continuous contact with water**

1. Pre-treat, in accordance with the manufacturer's specifications, the built-in elements provided in the project, such as skimmers, light fittings, drains, PVC, steel or aluminium pipes, or other elements.
2. Start by waterproofing the vertical walls, cutting and shaping G-TEX AIRFULL to suit the wall dimensions and installing the geomembrane over the entire vertical surface.
3. Apply AQUASAFE ULTRATECH with a 6 mm notched trowel, taking care to spread the adhesive in one direction only, matching the laying direction of G-TEX AIRFULL.
4. Bond G-TEX AIRFULL over the entire surface onto the fresh adhesive layer, proceeding from top to bottom and placing adjacent sheets as close together as possible. Press the entire geomembrane surface with a smooth trowel to eliminate air bubbles and ensure perfect adhesion.
5. Using the same installation technique, waterproof the horizontal surface by bonding G-TEX AIRFULL over the entire surface onto the fresh adhesive layer, placing adjacent sheets as close together as possible. Depending on the geometry of the structure, determine whether to install the geomembrane continuously between vertical and horizontal surfaces or shape it as required, ensuring perfect waterproofing continuity and avoiding folds.
6. After all G-TEX AIRFULL has been installed, treat the butt joints between adjacent geomembranes (including floor-to-wall junctions). Ensure the adjoining membrane sections are free from dust, cement residues or any material that could impair adhesion of G-TEX STRIP H 12 joint-covering tape. Apply the silane adhesive AQUAFIX ULTRA (A+B), specifically designed for bonding and sealing overlaps between G-TEX geomembranes, using a 3 mm triangular-notched trowel. Bond G-TEX STRIP H 12 onto the fresh adhesive and press along the entire length with a smooth trowel to eliminate air bubbles and ensure a perfect seal.
7. If considered necessary, treat internal and/or external corners by positioning and bonding G-TEX STRIP 90 and G-TEX STRIP 270 waterproof corner tapes with AQUAFIX POLYS adhesive, specifically for sealing floor-to-wall junctions at 90° and 270° corners respectively.

8. Once waterproofing is complete, use the same AQUASAFE ULTRATECH to install the ceramic covering in accordance with UNI 11493 (Ceramic floor and wall tiling - Instructions for design, installation and maintenance). Design movement joints in the covering in proportion to the dimensions of the surface, the tile format and the type of material used (as a guideline, provide movement joints every 9-15 m<sup>2</sup>). Always provide tile joints at least 2 mm wide.

### COVERAGE

Yield for installation of G-TEX geomembrane: approx. 3.0 kg/m<sup>2</sup> depending on the type of substrate.  
Yield for installation of ceramic material: approx. 5.0 kg/m<sup>2</sup> depending on the type of tile.

### RECOMMENDATIONS

- Direct sunlight or excessive ventilation can affect working times, drastically reducing them. In this case, dampening the cementitious substrate before applying the adhesive may help extend the open time.
- Do not use on wet substrates or when rain is imminent.
- Protect the covering from rain, washout, frost and direct sunlight until completely hardened.
- For large-format ceramic materials, exterior installation, very humid areas or areas subject to heavy traffic, it is essential to also spread adhesive on the back of the tiles to avoid voids that could cause breakage or detachment under concentrated loads or frost action.
- Do not use AQUASAFE ULTRATECH to bond G-TEX geomembrane to non-absorbent or metal surfaces, treated wood or substrates particularly sensitive to water, plastics or resilient materials.

### PACKAGING

AQUASAFE ULTRATECH is supplied in 25 kg bags on 1500 kg pallets. Store the product in dry areas in its original, tightly closed packaging. Under these conditions it remains stable for at least 12 months.

### SAFETY INSTRUCTIONS

The product contains cement which, in contact with perspiration, produces an alkaline reaction that may irritate and sensitize the skin. Wear suitable clothing, gloves and safety glasses.  
For further information on safe use of the product, refer to the relevant Safety Data Sheet.

### SPECIFICATION ITEM

#### For installation of G-TEX AIRFULL geomembrane:

Install GEODRY G-TEX AIRFULL waterproofing geomembrane using a mineral adhesive with high adhesion, high deformability, high water resistance, no vertical slip, extended open time and total wettability, classified C2TE S1 according to EN 12004, such as AQUASAFE ULTRATECH by GEODRY, specifically designed for continuous immersion and for creating watertight waterproofing under positive and negative hydrostatic pressure in swimming pools, tanks and structures in continuous contact with water. Apply the adhesive at a consumption of 3 kg/m<sup>2</sup>, after suitable substrate preparation. The substrate shall comply with UNI 11493 requirements concerning curing, integrity, mechanical and surface strength, dimensional regularity, moisture and absence of contaminants.

#### For installation of ceramic materials:

Install all types of ceramic tiles, porcelain stoneware, ceramic and glass mosaics and clinker using a mineral adhesive with high adhesion, high deformability, high water resistance, no vertical slip, extended open time and total wettability, classified C2TE S1 according to EN 12004, such as AQUASAFE ULTRATECH by GEODRY, specifically designed for continuous-immersion installation of a wide range of finishing materials on G-TEX geomembranes. Apply the adhesive at a consumption of 5 kg/m<sup>2</sup>, after adequate substrate preparation. The substrate shall be free from loose parts, dust, cement residues and any other material that could impair perfect adhesion.

## TECHNICAL DATA

|                                                 |                                                           |
|-------------------------------------------------|-----------------------------------------------------------|
| <b>Complies with standard:</b>                  | <b>EN 12004</b>                                           |
| <b>Classification according to EN 12004:</b>    | <b>C2TE S1</b>                                            |
| Appearance:                                     | powder                                                    |
| Color:                                          | gray                                                      |
| Apparent density (kg/m³):                       | 1300                                                      |
| Mixing ratio:                                   | 6.5 litres of water per 25 kg of powder, depending on use |
| Mix color:                                      | gray                                                      |
| Pot life at 23 °C:                              | ~ 4 h                                                     |
| Adjustment time:                                | >= 45 min.                                                |
| Wall grouting:                                  | 6 h                                                       |
| Foot traffic:                                   | 24 h                                                      |
| Ready for service:                              | 14 days                                                   |
| Ready for service for swimming pools and tanks: | 21 days                                                   |
| Permitted application temperature:              | +5 °C to +35 °C                                           |
| Service temperature:                            | -30 °C to +90 °C                                          |

## FINAL PERFORMANCE according to EN 12004 Class C2TE S1

| Other characteristics                      | Requirements | Test method |
|--------------------------------------------|--------------|-------------|
| Initial adhesion after 28 days (N/mm²):    | >= 1.0       | EN 1348     |
| Adhesion after heat aging (N/mm²):         | >= 1.0       | EN 1348     |
| Adhesion after water immersion (N/mm²):    | >= 1.0       | EN 1348     |
| Adhesion after freeze/thaw cycles (N/mm²): | >= 1.0       | EN 1348     |
| Open time (min.):                          | >= 30        | EN 1346     |
| Slip (mm):                                 | <= 0.5       | EN 1308     |
| Deformability (mm):                        | >= 2.5       | EN 12002    |

The declarations are valid at an ambient temperature of +23 °C with a 28-day test period.

The information and recommendations above are based on our best experience. However, we cannot accept any responsibility for improper use of the products. We therefore recommend that users verify whether the product is suitable for its intended use and, in any case, carry out preliminary tests. Always refer to the latest updated version of the technical data sheet, available at [www.colmef.com](http://www.colmef.com).

**FOR FURTHER INFORMATION OR SPECIAL APPLICATIONS, PLEASE CONTACT COLMEF TECHNICAL ASSISTANCE SERVICE.**

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