

Product Data Sheet

CasTech Tile Adhesive WR

Nov-2025, Ver. 01.01



Polymer-Modified Water-Resistant Cementitious Tile Adhesive

DESCRIPTION

CasTech Tile Adhesive WR is a single-component, polymer-modified, water-resistant cementitious tile adhesive supplied as a factory-blended grey or white powder. When mixed with clean water, it produces a smooth, workable mortar that provides a strong and durable bond between tiles and properly prepared substrates.

The product is intended for interior and exterior wall and floor tiling, including moisture-prone and submerged locations. It is suitable for ceramic and porcelain tiles, quarry tiles, terrazzo and compatible stone cladding, subject to the tile characteristics, substrate condition, approved waterproofing system and project requirements.

TYPICAL USES

- Permanent fixing of ceramic and porcelain wall and floor tiles
- Stone cladding, terrazzo and quarry-tile installation
- Bathrooms, kitchens, showers and other moisture-prone areas
- Swimming pools, fountains and other submerged applications when used with an approved waterproofing and jointing system
- Interior and exterior applications on concrete, cement render, cement screed and compatible cementitious boards
- Vertical, horizontal and heavy-duty applications using the appropriate fixing method

ADVANTAGES

Key advantages:

- Water-resistant formulation for damp and submerged environments
- Strong adhesion for durable tile installation
- Polymer modified for improved workability and bonding
- Smooth, cohesive consistency and easy application by notched trowel
- Suitable for a wide range of tile and cladding materials
- Interior and exterior use
- Single-component system - only clean water is added on site
- Available in grey and white

STANDARDS

CasTech Tile Adhesive WR is formulated and tested with reference to BS EN 12004, BS EN 1015, DIN 18156 and ANSI A118.1. Product selection and project compliance shall be confirmed against the approved specification and supporting test documentation.

TYPICAL PROPERTIES

Appearance / colour	Grey or white powder
Chemical base	Polymer-modified cementitious adhesive
Water addition	4.0-5.0 L per 25 kg bag; typical 4.5 L
Wet density	Approx. 1.70 kg/L
Recommended application temperature	+5°C to +35°C
Working time at 23°C	Approx. 45 minutes
Application thickness	3-6 mm
Bond strength at 28 days	Approx. 1.5 N/mm ²
Minimum tile-joint width	2 mm
Joint grouting	After approximately 24 hours
Theoretical coverage	Approx. 2.9-5.8 m ² /bag at 6-3 mm
Packaging	25 kg kraft bag
Shelf life	12 months
Product type	Polymer-modified water-resistant cementitious tile adhesive

Properties are based on laboratory-controlled testing at approximately 23±2°C and the stated water addition. Site results may vary with water content, temperature, substrate, tile type, bed thickness, curing and environmental conditions.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

General requirements

The substrate shall be sound, dimensionally stable, clean, and free from dust, laitance, oil, grease, paint, curing compounds, release agents, loose mortar, old wallpaper, and other contaminants that may impair adhesion. Remove weak or contaminated material by suitable mechanical means.

Repairs and levelling

Repair cracks, cavities, and weak areas with an appropriate CasTech repair material. Allow new concrete, render, screed,

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and repairs to cure adequately. Level uneven surfaces before tile fixing; do not use the adhesive to correct excessive substrate irregularity.

Pre-wetting

Dampen absorbent cementitious surfaces with clean water a few hours before application. Immediately before fixing, remove all standing water. The surface shall be damp or in a saturated-surface-dry condition and shall not be exposed to running water during application.

Dense or smooth surfaces

Smooth concrete, existing terrazzo, dense tiles, or other low-absorption surfaces shall be mechanically roughened and thoroughly cleaned. Confirm adhesion by a representative site trial and use an approved CasTech primer or bonding system where required.

Boards and moisture-sensitive substrates

Cementitious boards shall be rigid, securely fixed, and suitable for tiling. Gypsum-based, timber, metal, or other moisture-sensitive substrates require a specifically approved primer, waterproofing, and adhesive system; obtain CasTech technical advice before application.

MIXING

Use a clean container and a slow-speed, heavy-duty drill fitted with a suitable mixing paddle. Measure 4.0–5.0 litres of clean potable water for each 25 kg bag. A typical water addition is approximately 4.5 litres, adjusted only within the stated range to suit the required consistency and site conditions.

Add **CasTech Tile Adhesive WR** powder gradually to the water while mixing continuously. Mix until a smooth, homogeneous, and lump-free mortar is obtained. Allow the mixture to stand for approximately 10 minutes, then remix briefly before use.

Do not add cement, sand, admixtures, or other materials. Do not exceed the recommended water quantity. Mix only the quantity that can be used within the working time, and do not retemper material that has started to stiffen or set.

APPLICATION

Adhesive spreading

Apply the adhesive to the prepared substrate using the flat side of a trowel to produce a contact layer. Immediately comb the material in one direction with a correctly selected notched trowel to obtain a uniform bed of approximately 3–6 mm.

Working area and open time

Spread only an area that can be tiled while the adhesive remains fresh, generally not more than approximately 1 m² at a time. If a surface skin forms or transfer to the tile is inadequate, remove the material and apply fresh adhesive. Do not re-wet skinned adhesive.

Tile fixing

Press tiles firmly into the fresh adhesive with a slight sliding or twisting motion to collapse the ribs and ensure good contact. Periodically lift a tile to verify transfer and bedding coverage. Clean dust and contamination from tile backs before fixing.

PROTECTION AND JOINT FILLING

Heavy, vertical, and submerged applications

For vertical heavy-duty work, decorative stone, floor tiling, exterior work, and submerged applications, use solid-bed fixing or back-buttering as required to obtain full and continuous contact. Avoid voids behind tiles, particularly where water exposure or heavy loading is expected.

Joints

Provide a minimum tile-joint width of 2 mm unless the tile manufacturer or project specification requires a wider joint. Do not bridge structural, movement, control, or isolation joints with adhesive or tiles. Continue such joints through the tiled finish and seal them with an approved flexible sealant system. Protect freshly installed tiles from rain, running water, direct sunlight, strong wind, frost, vibration, impact, and premature traffic. Do not fill pools or expose the installation to continuous water until the adhesive, grout, waterproofing, and sealants have fully cured in accordance with the approved system.

As a general guide, tile joints may be grouted after approximately 24 hours at 23°C. Cooler conditions, dense tiles, low-absorption substrates, thick adhesive beds, or restricted drying will extend this period.

CLEANING

Remove fresh adhesive from tile faces and joints with a damp cloth or sponge before it hardens. Clean tools and equipment immediately after use with clean water. Hardened material can

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only be removed mechanically.

COVERAGE

Based on the stated wet density and typical water addition, theoretical coverage is approximately 5.8 m² per 25 kg bag at a uniform 3 mm bed and approximately 2.9 m² at 6 mm. Actual consumption depends on substrate profile, tile-back profile, trowel notch, bedding coverage, and wastage.

PACKAGING

- 25 kg moisture-resistant kraft bag

SHELF LIFE

12 months from the date of manufacture when stored unopened in the original packaging under the recommended conditions.

STORAGE

Store under cover in a cool, dry, and shaded warehouse, off the ground, and protected from moisture, direct sunlight, and extreme temperature or humidity. Keep bags sealed until use and follow stock rotation.

LIMITATIONS

- For very large or heavy tiles, facades, glass mosaic, heated floors, deformable substrates, or critical immersed applications, obtain CasTech technical approval and use the specified complete system.
- Do not use directly over gypsum, timber, metal, plastics, bituminous surfaces, coatings, or waterproofing membranes unless the complete compatible system has been technically approved.
- Natural stone may be moisture sensitive, stain prone, or dimensionally unstable. Complete a compatibility trial before use.
- Installation performance depends on substrate preparation, adhesive contact, tile properties,

movement-joint design, environmental conditions, and workmanship.

HEALTH AND SAFETY

CasTech Tile Adhesive WR contains cement and becomes alkaline when mixed with water. Avoid inhalation of dust and contact with eyes, skin, mouth, and foodstuffs. Wear protective gloves, safety goggles, suitable clothing, and a dust mask during mixing and application.

In case of eye contact, rinse immediately with plenty of clean water and seek medical attention. Wash affected skin with soap and water. If swallowed, do not induce vomiting; seek immediate medical advice. Keep away from children and animals.

Do not reuse empty packaging. Dispose of product residue and packaging in accordance with applicable local regulations. Refer to the latest Safety Data Sheet (SDS) before use.

TECHNICAL SUPPORT

CasTech provides on-site assistance and consulting services on projects when requested. Technical data sheets on other CasTech products and guidance on their use are available on request.

TEST REFERENCES

- BS EN 12004 - adhesives for ceramic tiles: requirements, assessment and classification
- BS EN 1015 - test methods for mortar for masonry, where applicable
- DIN 18156 - tile and slab installation materials and application guidance
- ANSI A118.1 - dry-set cement mortar for tile installation

The standards listed reflect the references stated in the former product data. They do not, by themselves, constitute third-party certification or a declared EN 12004 classification. Project-specific compliance shall be verified against approved test reports and specification requirements.

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