ABOUT HYDAMIX 391

HYDAMIX 391 is a high-performance, latex-based admix formulated for cement-based mortar enhancement, ideally suited for creating thick bed adhesive, plasters, and mortar beds. It is designed to work in combination with cement sand mixes like HYDAFIX 371 to improve adhesion, strength, and flexibility. HYDAMIX 391 can also be used as a bonding agent and primer for various cementitious and dry wall surfaces in repair and refurbishment applications. It performs reliably in both interior and exterior installations for flooring and walls.

HYDAMIX 391 exceeds the performance standards–

ANSI A118.7

EN 13813

SURFACE APPLICATION MATERIALS

- Cement plasters and mortar beds
- Bonding agent for repairs
- Primer for cement-based surfaces
- Thick bed adhesive for tiles and stones
- Screeds and plaster substrates
- Cement, cement terrazzo
- Concrete, brick masonry
- Cement backer board, gypsum wallboard
- Calcium silicate board, VDF / Tremix concrete
- Wood floor, precast concrete

RECOMMENDED: SURFACES / SUBSTRATES

- Concrete & concrete masonry
- Brick masonry
- Cement mortar beds & plaster
- Cement backer board
- Wood floor
- Cement terrazzo
- Calcium silicate board
- Gypsum wallboard
- VDF / Tremix concrete

APPLICATION AREAS

- Interior and exterior floor & wall installations
- Cement-based thick bed adhesive preparation
- Repair and refurbishment of concrete or plaster surfaces
- Primer for drywall, gypsum, and calcium silicate boards
- Capillary rise control in brick walls (when mixed with neat cement)

PRODUCTS HIGHLIGHTS

❖ **LATEX-BASED FORMULA** – Designed for modifying cement plasters, mortar beds, and thick bed adhesives.

❖ **HIGH STRENGTH & FLEXIBILITY** – Improves compressive strength and shock resistance.

❖ **WATER RESISTANT** – Reduces water absorption and enhances performance in damp environments.

❖ **ADHESION ENHANCEMENT** – Promotes strong bond with concrete, masonry, and cement boards.

❖ **THERMAL & SEISMIC SHOCK RESISTANT** – Suitable for structures prone to thermal variations and minor movements.

❖ **EXCEEDS ANSI A118.7** – Compliant with standards for latex-modified cement mortars.

❖ **COMPLIES WITH EN 13813** – Ensures European quality compliance for screed materials.

❖ **MULTI-UTILITY APPLICATION** – Serves as bonding agent, primer, and performance enhancer in one solution.

TECHNICAL DETAILS

ANSI DATA

PROPERTY	TEST METHOD	REQUIREMENT	HYDAMIX 391 VALUES
Compressive Strength	ASTM C 109	≥20 N/mm²	23–26 N/mm²
Flexural Strength	ASTM C 580	≥7 N/mm²	9.7–11.2 N/mm²
Tensile Strength	ASTM C 307	≥3.50 N/mm²	3.77–4.7 N/mm²

EN / ISO DATA

PROPERTY	TEST METHOD	REQUIREMENT	HYDAMIX 391 VALUES
Compressive Strength	EN 13892-2	≥20 N/mm²	22–25 N/mm²
Flexural Strength	EN 13892-2	≥10 N/mm²	11–13 N/mm²
Bond Strength	EN 13892-8	≥1.50 N/mm²	1.51–2.01 N/mm²
BRE Drop Hammer Test	BS 8204	2–3 mm	3–4 mm

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION GUIDELINES

1. **CLEAN & STABLE SURFACE** – Substrates must be structurally sound, free from dust, dirt, oil, grease, paint, curing agents, or any bond-inhibiting materials.
2. **EVEN & LEVEL BASE** – Ensure substrate variation does not exceed 6 mm over 3 meters. Rough or uneven surfaces should be corrected with a suitable screed or plaster to achieve a smooth, wood float finish or better.
3. **DRY & MOISTURE-CONTROLLED** – Surface can be damp but not wet. Excess standing water should be removed before applying bonding slurry or mortar.
4. **STRUCTURAL INTEGRITY** – Substrate materials such as VDF/Tremix concrete, brick masonry, cement plaster, and cement boards should be firm and not flaking or disintegrating.
5. **PRIMING IF REQUIRED** – For better adhesion on surfaces like concrete, plaster, gypsum boards, and calcium silicate boards, apply a neat coat of HYDAMIX 391 using a brush or roller.
6. **EXPANSION JOINTS COMPLIANCE** – All expansion, structural, and movement joints must be carried through the tile and stone finishes. Do not bridge them with mortar or tiles.
7. **MOISTURE BARRIERS WHERE NECESSARY** – For controlling rising damp, a slurry mix of HYDAMIX 391 and neat cement (1:1) can be applied at wall-to-floor joints as a water-resistant barrier.
8. **BACK COATING FOR NATURAL STONE** – To prevent staining or moisture absorption from the substrate, apply a neat coat of HYDAMIX 391 on the backside of natural stones before installation.
9. **TILE SPACING & MOVEMENT ACCOMMODATION** – Always leave appropriate joint spaces between tiles or stones during installation. Fill joints with grouts suitable for the application (internal/external).
10. **HOT & COLD WEATHER CONDITIONS** – For extreme weather installations, refer to technical guidance on hot and cold weather tiling to avoid premature setting or bonding failure.

HOW TO MIX THE ADHESIVE

1. **MIXING RATIO** – Mix approximately 0.5 liters of **HYDAMIX 391** latex admix (diluted with 1.5 liters of water) with 20 kg of HYDAFIX 371 thick bed powder for a 12 mm thick bed**.**
2. **CONSISTENCY** – Stir **HYDAMIX 391** thoroughly before use. Dilute as per ratio and mix with HYDAFIX 371 powder using a slow-speed mixer or by hand to achieve a semi-dry consistency.
3. **DO NOT ADD** – Do not add additional water or any other materials to the mixture. Use the mix within 1 hour (pot life) and remix gently before application if required.

STEP-BY-STEP TILE APPLICATION GUIDE

A. THICK BED ADHESIVE INSTALLATION

- Apply a slurry bond coat made by mixing **HYDAMIX 391** (pre-diluted 1:1 with water) with cement and sand in 1:1 ratio.
- Spread and compact the HYDAFIX 371 mortar while the slurry is wet.
- For tile placement, apply a second slurry bond coat over the mortar bed and install tiles.

B. FLOOR SCREEDS

- Before applying screed, brush on a bonding slurry using **HYDAMIX 391** (pre-diluted 1:1 with water), mixed with cement:sand (1:1).
- Place and compact the mortar while slurry is wet.
- Movement joints and reinforcement (like wire mesh) are recommended as per standard practice

C. PLASTER

- Use site-mixed mortar or HYDAFIX 371 gauged with pre-diluted **HYDAMIX 391**.
- Apply up to 25 mm thick coats in one application without slump.

D. PRIMER APPLICATION

- Apply neat **HYDAMIX 391** with brush/roller on cement-based drywall boards or natural stone backs.
- Coverage: 1.5–2.5 Sq.m/litre depending on surface.

E. BONDING AGENT FOR REPAIRS

- Make slurry with **HYDAMIX 391** diluted 1:1 with water and cement:sand (1:1).
- Apply to substrate with brush ensuring full coverage and adhesion.
- Coverage: 2.5–3 Sq.m/litre.

F. WATER RESISTANT COATING

- Mix **HYDAMIX 391** with cement in a 1:1 ratio.
- Apply two coats with 6-hour interval on floor-wall joints (extend 75 mm on each side).
- Coverage: 2–2.5 Sq.m/litre.

INSTALLATION PRECAUTIONS

1. **SURFACE PREPARATION**

   All surfaces must be structurally sound, clean, and free of oil, grease, dust, curing compounds, loose materials, or any contaminants that may reduce bond strength.

2. **SUBSTRATE CONDITION**

   Ensure the substrate temperature is between 4°C and 32°C (40°F to 90°F). For dry and porous surfaces like dry concrete or masonry, dampen the surface and remove excess water before installation.

3. **EXPANSION JOINTS**

   Provide movement joints in accordance with standard engineering practices. Do not cover expansion joints with mortar. Follow ANSI Specification AN-3.8 or TCA Detail EJ171 for guidelines.

4. **HOT & COLD WEATHER TILING**

   Special precautions should be taken when tiling under extreme temperatures. Refer to technical documentation on hot and cold weather tiling for detailed instructions

5. **DRYWALL BOARDS & BACKER BOARDS**

   When applying over cement boards, gypsum boards, or calcium silicate boards, consult the board manufacturer's guidelines for load-bearing and compatibility.

6. **WIRE MESH IN SCREEDS**

   For enhanced performance of floor screeds, it is recommended to use a wire mesh reinforcement as per engineer's specifications.

COVERAGE

COVERAGE VARIES WITH THICKNESS: For every 20 kg of HYDAFIX 371 mixed with **HYDAMIX 391** and water (as per specified proportions), approximate coverage is as follows:

1. **12 mm** thickness: ~10 sq. ft.
2. **25 mm** thickness: ~5 sq. ft.
3. **35 mm** thickness: ~3.2 sq. ft.
4. **50 mm** thickness: ~2 sq. ft.

Note: Actual coverage may vary depending on the surface condition and levelness of the substrate.

PRO TIPS & PRECAUTIONS

✔ No foot traffic for 24 hours after tile installation.

✔ Do not add cement, sand, or extra water beyond the recommended mix ratios.

✔ Mix only quantities that can be used within 1 hour.

✔ Use tile leveling systems for external floor/wall applications to minimize tile movement and slippage.

✔ Ensure tiles are beaten in properly over the mortar bed for full contact, especially with larger format tiles.

PRODUCT SPECIFICATIONS & STORAGE GUIDELINES

AVAILABLE PACKAGING

- White liquid: 5 Litre

SHELF LIFE:

- HYDAMIX 391: 24 months from manufacturing date when stored off the ground in sealed original pails in a dry area.
- HYDAFIX 371: 12 months from manufacturing date if stored properly in sealed packaging.

STORAGE LIFE:

- Store **HYDAMIX 391** and HYDAFIX 371 in a dry, cool, shaded place between 10°C and 30°C.
- Protect from direct sunlight and avoid high humidity to preserve shelf life
- Prevent freezing of **HYDAMIX 391** and do not expose either product to temperatures below 5°C or above 35°C.
- Discard HYDAFIX 371 if the bag is torn or the contents have hardened.

GROUTING INSTRUCTIONS

1. SURFACE PREPARATION

- Ensure that the tiles are firmly set and the adhesive has fully cured (usually 24 hours for walls, 48 hours for floors).
- The joints must be clean, dry, and free of dust, oil, or other contaminants.
- Remove all spacers and ensure joint depth is uniform.

2. MIXING

- Mix HYDAFIX 391 powder with clean water in a clean plastic bucket using a slow-speed drill (approx. 300–500 rpm) with a paddle.
- Mixing Ratio: Approximately 300–350 ml of water per 1 kg of powder (exact ratio may vary slightly depending on site conditions).
- Mix until a smooth, lump-free, creamy consistency is achieved.
- Let the mix stand for 2–3 minutes (slake time), then remix before application.
- Do not add more water after slaking.

3. APPLICATION

- Apply the grout using a rubber grout float, working it diagonally across the joints to fully pack them.
- Remove excess grout from the tile surface with the edge of the float while the grout is still fresh.

4. CLEANING

- After approximately 15–30 minutes (when the grout has firmed up slightly), clean the tiles with a damp sponge or soft cloth in a circular motion to remove grout haze.
- Use clean water and rinse the sponge frequently.
- Final cleaning to remove any remaining haze should be done once the grout is firm but not fully cured (after approx. 1–2 hours).

5. CURING

- Allow the grout to cure undisturbed for at least 24 hours before exposing to light foot traffic.
- Full cure is typically achieved in **7 days**, depending on ambient conditions.

FACTORS AFFECTING COVERAGE:

- Trowel size & application technique
- Tile size & material
- Surface smoothness & porosity

SAFETY & APPLICATION GUIDELINES FOR HYDAMIX 391

1. **PERSONAL PROTECTION**
    - Use appropriate safety gear, including gloves, protective clothing, and safety goggles, during handling and application.
    - Ensure the product is stored away from children.
    - This product is intended strictly for professional installation and is not suitable for DIY use.
2. **EMERGENCY PROCEDURES**
    - **Skin Contact:** Rinse skin immediately with copious amounts of clean water.
    - **Eye Contact:** Flush eyes thoroughly with clean water for at least 15 minutes. Seek medical advice if irritation persists.
3. **SURFACE PREPARATION**
    - Ensure all substrates are structurally stable, clean, and free from contaminants such as oil, dust, grease, sealers, or curing compounds.

- Concrete surfaces should be cured for at least 28 days unless the product is being used with a latex admix.
- Level rough or uneven surfaces using a suitable screed or plaster to achieve a smooth, wood-float or better finish.

4. INSTALLATION & PROTECTION

- Maintain ambient temperature between 40°F–104°F (4°C–40°C) during application.
- Protect installations from rain, traffic, or heavy load for at least 24 hours.
- Back-buttering is mandatory for large-format tiles (>12”x12”).
- Use spacers to maintain uniform grout joints and beat tiles into place with a mallet or beating block.
- Use mechanical tile leveling systems where needed.
- Never use adhesive mortar to level the surface.

PERFORMANCE LIMITATIONS

- **HYDAMIX 391** is not self-leveling – surfaces must be corrected beforehand.
- Cure time may vary based on site temperature, humidity, and substrate conditions.
- Conduct a sample area test for difficult or unknown substrates.
- Do not apply adhesive over expansion joints; always maintain movement joints.

-End of TDS