

# HYGROSMART® - MICROCEMENT-1K

## Single-Component, Fast-Drying, Shrinkage-Compensated Microcement for Decorative Applications

### DESCRIPTION

**HYGROSMART® MICROCEMENT-1K** is a high-performance, single-component cementitious coating formulated with advanced hydraulic binders, synthetic resins, ultra-fine fillers, and specialized admixtures. It is designed for the creation of seamless, decorative floors and walls. Thanks to its excellent adhesion, stress-free surface, and resistance to primary efflorescence, it ensures the formation of durable, premium-quality finishes.

### RECOMMENDED FOR

- ✓ **Decorative floors and walls** in retail spaces, residential properties, and commercial environments.
- ✓ **Seamless coatings** for floors, walls, and ceilings with a troweled finish.
- ✓ **High-end surfaces** in bars, cafés, and restaurants.
- ✓ **Elegant flooring** in hotel lobbies, showrooms, and reception areas.
- ✓ **Civil engineering and architectural applications** requiring a smooth or textured cementitious coating.

### FEATURES AND BENEFITS

- ✓ **Smooth, seamless finish** – Provides a refined, high-end appearance.
- ✓ **Shrinkage-free formulation** – Ensures dimensional stability and crack resistance.
- ✓ **Rapid drying** – Allows for faster project completion and reduced downtime.
- ✓ **Efflorescence-resistant** – No salt stains on the surface after full curing.
- ✓ **Versatile application** – Suitable for both vertical and horizontal surfaces.
- ✓ **Ultra-high adhesion** – Bonds exceptionally well to a variety of substrates.
- ✓ **Superior mechanical strength** – Withstands wear and impact in high-traffic areas.

Certified quality, environmental and occupational health & safety management systems:  
ISO 9001/14001 & ISO 45001.

### LIMITATIONS/OBSERVATIONS

- ✓ **Apply only on sound, properly prepared substrates.**
- ✓ **Do not exceed the recommended water dosage.**
- ✓ **For interior use only – not suitable for exterior surfaces.**
- ✓ **Do not add lime, cement, or gypsum to the mix.**
- ✓ **Not suitable for application on metal surfaces.**
- ✓ **Ensure application is carried out within the specified temperature range: +5°C to +30°C.**

### APPLICATION

#### Substrate preparation

For optimal adhesion and long-term durability, the substrate must be **clean, stable, and free from contaminants** such as dust, loose particles, paint, wax, oil, rust, or any other substances that may hinder bonding.

To achieve the best surface quality, **mechanical preparation** is recommended. This should be done by **grinding with a diamond disc**, followed by **thorough vacuuming** to remove all residual dust.

**Surface irregularities and cracks** should be **repaired using EPOXY RESIN-21-T** to ensure a uniform, stable base before applying **HYGROSMART®-MICROCEMENT-1K**.

**Avoid** chemical treatments such as **acid washing** and **impact tools** that may compromise the integrity of the substrate.

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## ■ Priming the Substrate – Horizontal Surfaces

After completing the **surface preparation**, **horizontal concrete or ceramic substrates** should be primed with **AQUASMART® DUR-2K** to enhance adhesion.

### Application Steps:

1. **Mixing:** Combine **equal volumes** of **AQUASMART® DUR-2K Component A and Component B** until a uniform mixture is achieved.
2. **Application:** Pour the mixed primer onto the prepared surface and **spread evenly** using a **smooth trowel** to ensure full coverage.
3. **Optional Step:** While the primer is still wet, **broadcast quartz sand** across the surface to improve mechanical bonding and facilitate the application of the microcement layer.
4. **Final Preparation:** Once the primer has fully cured, **remove any loose or excess sand** using a vacuum cleaner to create a clean and uniform base.

## ■ Priming the Substrate – Vertical Surfaces

The appropriate primer must be selected based on the substrate's absorbency to ensure optimal adhesion of **HYGROSMART® MICROCEMENT-1K**.

### Non-Absorbent Surfaces (e.g., ceramic, porcelain, glazed tiles)

Apply **HYGROSMART® GD-PRIMER** using a **brush or roller**, ensuring uniform coverage.

### Absorbent Surfaces (e.g., plaster, drywall, porous concrete)

Prime with a **single coat** of **AQUASMART® PRIMER**, a styrene-acrylic emulsion, **diluted 1:1 with water** before application.

## ■ Preparation of the Product

### Mixing Instructions:

1. **Measure & Add Water:** In a clean container, mix **32% water by weight** with the dry product.
2. **Mixing:** Use a **low-speed electric mixer** to blend until a **smooth, homogeneous, and lump-free paste** is achieved.
3. **Batch Size:** Due to the product's **high yield and fast curing**, it is advisable to prepare only small quantities at a time.

The product can be **pigmented** using **powdered colorants** or **water-based pigments** available on the market.

## ■ Application of the Product

### 1. Base Application:

- Apply **two or more coats** of **HYGROSMART® MICROCEMENT-1K** using a **smooth rubber trowel**, working the material to **zero thickness** until the desired finish is achieved.

### 2. Surface Preparation Between Coats:

- Once the first coat has **fully dried**, sand the surface using **80 to 200 grit sandpaper**, depending on the required level of smoothness.
- **Thoroughly vacuum** to remove all sanding dust before proceeding.

### 3. Priming Between Layers (Adhesion Promoter):

- Apply **AQUASMART® PRIMER** as an adhesion promoter between coats to enhance bonding.
- **Dilute the primer 1:1 with water** and apply it **using a roller**.

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- Allow the primer to **fully dry** before applying the next layer of **HYGROSMART® MICROCEMENT-1K**.

#### 4. Final Application:

- Repeat the process until the required texture and finish are achieved.

#### 5. Finishing & Protection:

- After the **final coat has fully cured**, apply **two coats** of **AQUASMART® -TC Protection Varnish**, a **water-based, two-component, aliphatic polyurethane varnish**.
- It provides **excellent resistance to UV exposure, water, chemicals, and abrasion**, enhancing the **durability and longevity** of the decorative coating.
- **Application:** Use a **roller** for an even and uniform finish.

#### CONSUMPTION

Depending on the substrate roughness and thickness of layer applied. As a guide: **0.3 – 0.5 kg/m<sup>2</sup> per coat**

#### PACKAGING

**HYGROSMART® MICROCEMENT 1K** is available in 4 kg aluminum bags.

#### STRENGTH DEVELOPMENT

The **mechanical strength** of **HYGROSMART® MICROCEMENT 1K** is influenced by several factors, including **water dosage, ambient temperature, and humidity levels**.

The table below presents the **average strength values** of **HYGROSMART® MICROCEMENT 1K** at **25°C**, when mixed with **1.3 liters of water per 4 kg of product**.

For the **compressive and flexural strength measurements**, **40 × 40 × 160 mm prisms** were used.

Days	Compressive strength (N/mm <sup>2</sup> )	Flexural strength (N/mm <sup>2</sup> )
<b>1 day</b>	>20	>5
<b>7 days</b>	>25	>8
<b>28 days</b>	>35	>12

#### CLEANING

Clean all the tools with plenty of water after use. Hardened material can only be removed by mechanical means.

#### SHELF LIFE

Can be kept for 12 months in the original unopened bags in dry places and at temperatures of 5-25°C.

#### SAFETY INFORMATION

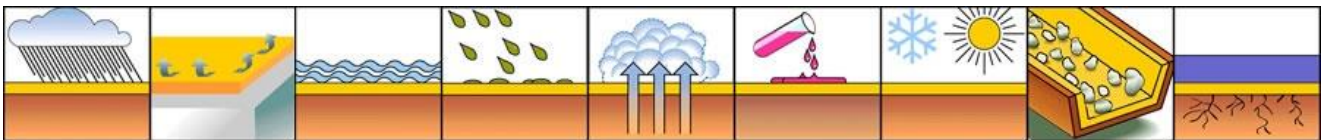
The product contains Portland cement. The MSDS (Material Safety Data Sheet) is available on request.

## HYGROSMART® - MICROCEMENT-1K

### TECHNICAL SPECIFICATIONS

PROPERTY	UNITS	RESULT
Color/Consistency	-	White powder
Water requirement	%	32
Density of dry mix	Kg/lit	0.95-1.05
Density of wet mix	Kg/lit	1.65-1.70
pH	-	10-11
Flexural strength (After 28 days)	MPa	>12
Compressive strength (After 28 days)	MPa	>35
Pot life (at 20°C)	min	20
Setting time	min	80
Light foot traffic	hours	3
Recoat time	hours	3-6
Adhesion	MPa	>3.5
Resistance to abrasion after 28 days with Taber Abraser H22 Wheel (500g – 200 revs)	Weight loss (g)	<0.1

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