Technical Datasheet

ISOMAT AK-18 CRYSTAL GEL

High-performance, polymer-modified tile adhesive with Crystal Gel technology

Description

ISOMAT AK-18 CRYSTAL GEL is a high-performance cement-based tile adhesive, enhanced with resins (polymers).
Expertly formulated with ISOMAT's innovative **Crystal Gel** technology combining Crystal Seeding technology with Gel properties in one product. More specifically:

- **Crystal Seeding technology**

This technology is based on the acceleration of the main phase of cement hydration because of the crystallization seeds present in its unique formula. ISOMAT AK-18 CRYSTAL GEL features relatively quicker setting and hardening times than a traditional standard-setting adhesive while its performance remains almost unaffected by application temperature compared to fast-setting and standard-setting adhesives. Plus, it is ideal for laying large-format tiles, even in lower and higher temperatures.

- **Gel properties**

Based on water-swellable polymers, ISOMAT AK-18 CRYSTAL GEL features innovative properties mainly in terms of ease of application, wettability and adhesion to substrates and tiles. Its smooth, creamy consistency ensures excellent workability and easier spreading while its thixotropic formulation with no vertical slip guarantees a successful application to walls (vertical surfaces). With a water ratio adjustable consistency (up to 8.5 l of water), it makes floor tile installation easier and faster. Its effortless application is paired with longer open and correction times for an even easier laying process. Also, thanks to the uniform distribution of the resin in its mass and its excellent wettability, it shows improved flexibility while achieving void-free, solid bed fixing with ease.

ISOMAT AK-18 CRYSTAL GEL provides high initial and final adhesion strength and delivers excellent performance in harsh conditions, including moisture, frost, and high temperatures. It features extended open time and no vertical slip. Furthermore, its advanced formulation allows for thicker adhesive beds that remain stable during tile installation, making it ideal when dealing with uneven substrates.

Certified according to EN 12004 and classified as type C2 TE adhesive. CE marked.
Has received an Environmental Product Declaration (EPD) following an assessment of its life-cycle environmental impacts. Registration No: EPD-IES-0006170, The International EPD® System.

Fields of application

ISOMAT AK-18 CRYSTAL GEL is suitable for fixing of wall and floor tiles, including absorbent or non-absorbent tiles (e.g., "grès porcellanato"), natural stone, decorative bricks, large-format tiles, etc., to substrates requiring high adhesion and moisture resistance (e.g., existing tiles, heated floors, gypsum board, etc.). Suitable for interior and exterior use.

Technical data

Form:	cementitious powder
Color:	white
Water demand:	8.00-8.50 l/25 kg bag
Application temperature:	from +5°C to +35°C
Application thickness:	up to 15 mm
Pot life:	at least 4 h
Open time:	at least 50 min
Minor adjustments open time:	at least 20 min
Slip:	≤ 0.5 mm
Wall grouting:	after 3-6 h
Floor grouting:	after 8-10 h
Adhesion strength after:	
• 28 days:	≥ 1.60 N/mm^2
• heating at +70°C:	≥ 1.50 N/mm^2
• immersion in water:	≥ 1.20 N/mm^2
• 25 freeze-thaw cycles:	≥ 1.40 N/mm^2
Service temperature:	from -30°C to +90°C

All measurements were conducted according to EN 12004-2.

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Directions for use

1. Substrate
The surface to be overlaid must be clean, free of dust, grease, paint, loose material, etc. It is recommended to dampen the substrate prior to application.

2. Application
ISOMAT AK-18 CRYSTAL GEL is gradually added to water under continuous stirring until a uniform paste is obtained. A low-speed mixer is recommended for mixing.
The mixture should be left to sit ("slake") for about 5 min and then remixed. The tile adhesive is uniformly spread ("combed") over the entire surface with a notched trowel. Then, tiles should be firmly pressed to the desired position.

Consumption

1.5-4.0 kg/m^2, depending on the trowel notch size and the nature of the substrate.

Packaging

25 kg paper bags.

Shelf life – Storage

12 months from production date, stored in original, sealed packaging, in dry, frost-free conditions.

Remarks

- Due to cement content, the product reacts with water, forming alkaline solutions, and thus is classified as irritant.
- Very porous surfaces, such as aerated concrete, gypsum board, chipboard, etc., must be primed with UNI-PRIMER or FLEX-PRIMER acrylic primer.
- Please consult the directions for safe use and precautions written on the packaging before use.

CE

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EN 12004:2007+A1:2012
DoP No.: ISOMAT AK-18 WHITE CRYSTAL GEL / 1103
NB: 0437

Improved cementitious adhesive with reduced slip and extended open time, for internal and external tiling.

Reaction to fire	Class A1
Release of dangerous substances	See MSDS
Bond strength, as:	
- initial tensile adhesion strength	≥ 1 N/mm^2
Durability, for	
- tensile adhesion strength after heat ageing	≥ 1 N/mm^2
- tensile adhesion strength after water immersion	≥ 1 N/mm^2
- tensile adhesion strength after freeze thaw cycles	≥ 1 N/mm^2

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The technical information and instructions supplied in this datasheet are based on the knowledge and experience of the Research and Development Department of our company and on results from long-term applications of the product in practice. The recommendations and suggestions referring to the use of the product are provided without guarantee, since site conditions during the applications are beyond the control of our company. Therefore, the user is responsible for confirming that the chosen product is suitable for the envisaged application. The present edition of this technical datasheet automatically cancels any previous one concerning the same product. | Edition: 28.11.2025