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PRODUCT DATA SHEET

ARDEX S 16 / ARDEX S 16 W

Rapid Hardening and Rapid Drying Tile and Natural Stone Adhesives

Features

- Minimises the risk of water staining in moisture sensitive natural stones
- Can be trafficked and grouted 2-3 hours after fixing
- Suitable for fixing porcelain and fully vitrified tiles
- For internal, dry or intermittently damp locations
- For use on walls and floors
- ARDEX S 16 W is ideal for fixing light and translucent marble and other types of translucent natural stones



RAPID DRY



Binds the mix water within the adhesive or grout, virtually eliminating the risk of water staining and guaranteeing the best possible finish to all natural stone tiles. Speeds drying and hardening times irrespective of application thickness.



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EMS 565427

OHS 628374

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ARDEX S 16/ARDEX S 16 W

Rapid Hardening and Rapid Drying Tile and Natural Stone Adhesives

DESCRIPTION

ARDEX S 16 and S 16 W are rapid hardening and drying tile adhesives with specific properties ideal for fixing moisture sensitive natural stone, as well as porcelain, mosaics, fully vitrified tiles, ceramic tiles and rigid foam insulating materials e.g. polystyrene etc. in internal locations. ARDEX S 16 and S 16 W are suitable for floor or wall tiles, and can be used on underfloor heated screeds when used with ARDEX E 90 Mortar Admix.

ARDEX S 16 and S 16 W incorporate ARDEX RAPIDRY FORMULA technology, meaning that the mix water is totally bound into the hardened adhesive which minimises the risk of water staining to moisture sensitive natural stone tiles. ARDEX S 16 W is especially suitable for fixing translucent stones and natural stone where a light coloured adhesive is required.

USE

The BS EN 12004 C2 FT designation for ARDEX S 16 and S 16 W classifies each adhesive as an "improved fast setting cementitious adhesive with reduced slip".

ARDEX S 16 and S 16 W are ideal where residual moisture remaining in a normal adhesive could cause water staining marks in moisture sensitive natural stone tiles.

Tiles and mosaics fixed with ARDEX S 16 or S 16 W can be grouted and subjected to loads only 2-3 hours after fixing at 20°C, making them particularly suitable for use in situations where the adhesive bed has to dry quickly, or the tiling has to be grouted and put into use shortly after fixing.

ARDEX S 16 and S 16 W are based on special cements and high quality synthetic resins and fillers, and are mixed with water to produce a slump free, easily applied mortar with a working time of approximately 30 minutes. The mortar adheres strongly to most building materials such as concrete, cement/sand render and screeds, brickwork, blockwork, etc. In some cases surface preparation, such as priming, may be required prior to fixing.

ARDEX S 16 and S 16 W are not recommended for fixing tiles in swimming pools, external locations, etc. In these situations we recommend the use of ARDEX X 77/X 77 W MICROTEC Flexible Wall and Floor Tile Adhesive.

SURFACE PREPARATION

The surface being adhered to must be clean, firm, free of dust, dirt, oil, grease and other barrier materials as well as being strong enough to support the weight of the tiles being fixed.

Ensure that the background's required drying time, as given in the relevant part of BS 5385,

is allowed to elapse prior to fixing the tiles. ARDEX S 16 and S 16 W can be applied to dry or moist surfaces, e.g. cement/sand, concrete, etc., but moisture sensitive materials must be dry and remain dry after fixing.

Gypsum plaster surfaces must be thoroughly dry and then primed with ARDEX P 51, diluted 1 part to 3 parts water.

Wood and wood-based surfaces, e.g. blockboard, plywood, etc., should be dry, sealed on their backs and edges and rigidly braced to provide a dimensionally stable background as described in BS 5385. Tiles can then be fixed using ARDEX S 16 or S 16 W, incorporating ARDEX E 90 mortar admix, after priming the face of the boards with ARDEX P 82.

Alternatively, when fixing to suitable wood-based boards on floors the use of undiluted ARDEX P 51 primer can be used. For fixing large format tiles on wood floors, consult the ARDEX S 28 or ARDEX X 7001 product datasheets.

When fixing to very smooth, dense and impervious surfaces, such as existing ceramic tiles (glazed or unglazed), glazed bricks, terrazzo and to heated concrete or cement/sand screeds, ARDEX E 90 Mortar Admix should be incorporated in the ARDEX S 16 or S 16 W.

The use of ARDEX E 90 mortar admix also allows direct fixing on existing clean glazed surfaces without the need for priming.

NOTE for Calcium Sulfate-based screeds i.e. Anhydrite: Ensure they have been laid and prepared in accordance with the manufacturers' recommendations. Generally they require sanding and must have a moisture content of 0.5% or less when measured using the carbide method. Prime with ARDEX P 51, diluted 1:3 with water.

MIXING

ARDEX S 16 and S 16 W powder are added to clean water in a clean container whilst stirring, and mixed thoroughly to give a slump free, easily worked mortar. The use of an ARDEX mixing paddle with a 10mm chuck, variable speed electric drill is recommended and makes light work of mixing.

The mixing proportions by volume are: Approximately 3 parts ARDEX S 16 or S 16 W powder to 1 part water.

A 20kg bag of ARDEX S 16 requires approximately 5 - 5½ litres of water.

A 20kg bag of ARDEX S 16 W requires approximately 5½ - 6 litres of water.

The mortar is immediately ready for use and has a working time of approximately 30 minutes at a temperature of 20°C.

NOTE: Do not mix more than can be used within this time. The working time and strength development will be retarded at lower and accelerated at higher temperatures. Do not apply at temperatures below 5°C.

APPLICATION

The mixed mortar is applied to the prepared surface with a trowel and then combed through with a suitably sized notched trowel in straight ribs to give a ribbed mortar bed. The tiles should be fixed within the open time of the applied adhesive and pressed into place with a twisting and sliding action ensuring solid bed fixing is achieved. For tiling to walls in dry internal locations, the adhesive contact should be with at least 50% of the back of the tile. For maximum performance at least 80% adhesive contact with the back of the tile should be achieved. Floor tiles and tiles with keyed back profiles may also need to be buttered to ensure solid bedding and so no voids are left beneath the tiles.

The area covered with ARDEX S 16 or S 16 W mortar should be limited so that tiles can be fixed within the open time. If the mortar is applied immediately after mixing, the open time is approximately 10 minutes but this time will be greatly reduced if the mixed mortar is left longer before applying.

GROUTING

Ceramic tiles and mosaics fixed in ARDEX S 16 or S 16 W may be grouted as soon as the tile bed is sufficiently firm, usually 2-3 hours after fixing at 20°C. The tile joints should be grouted with the appropriate ARDEX-FLEX Tile Grout. Where chemical-resistant, or impervious, easily cleaned jointing is required, we recommend ARDEX EG 8 hybrid epoxide cement grouting compound.

COVERAGE

A 20kg bag of ARDEX S 16 or S 16 W will yield approximately 14.7 litres of mortar, using approximately 1.35kg of powder per m² per mm thickness of adhesive bed.

The actual coverage achieved in practice will depend on the back profile of the tile and notched trowel and technique used to bed the tiles e.g. a 20kg bag of ARDEX S 16 or S 16 W will cover approximately 4.9m² at 3mm thickness.

PRIMERS

ARDEX P 51

Concentrated Water-Based Primer and Bonding Agent for use on absorbent backgrounds, plaster and anhydrite/calcium sulfate screeds prior to the use of ARDEX S 16 or ARDEX S 16 W adhesive.

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ARDEX P 4

Solvent free, ready mixed, rapid drying primer used prior to the application of ARDEX ceramic tile adhesives. ARDEX P 4 Primer produces a textured surface and dries in as little as one hour. It is particularly useful for tile on tile applications.

ARDEX P 82

Non-flammable, water-based, synthetic primer for use on smooth, impervious surfaces including existing ceramic tiling, internal asphalt, terrazzo, timber walls, sound and well adhered paint coatings, and old adhesive residues prior to the use of ARDEX S 16 or ARDEX S 16 W.

PACKAGING

ARDEX S 16 and S 16 W are packed in paper sacks incorporating a polyethylene liner - net weight 20kg.

STORAGE AND SHELF LIFE

ARDEX S 16 and S 16 W must be stored in unopened packaging, clear of the ground in cool dry conditions and be protected from excessive draught. If stored correctly, as detailed above, the shelf life of this product is 12 months from the date shown on the packaging.

NOTE: For the latest technical or health and safety data on this product, consult the current technical or health and safety data sheet online at ardex.co.uk

TECHNICAL DATA

Bulk density of powder

approximately 1.3kg/litre

Weight of fresh mortar

approximately 1.8kg/litre

Initial Set (Vicat) DIN 1164

approximately 1/2 hour at 20°C

Final Set (Vicat) DIN 1164

approximately 1 hour at 20°C

Compressive Strength (DIN 1164)

After 3 hours	5.2 N/mm ²
After 6 hours	9.0 N/mm ²
After 1 day	13.0 N/mm ²
After 28 days	18.0 N/mm ²

Tensile Bending Strength (DIN 1164)

After 3 hours	1.8 N/mm ²
After 6 hours	2.6 N/mm ²
After 1 day	4.2 N/mm ²
After 28 days	5.0 N/mm ²

Ball Pressure Hardness (Brinell)

After 28 days 50.0 N/mm²

Early Tensile Adhesion Strength Development (DIN 18156-M)

After 3 hours	0.8 N/mm ²
After 6 hours	1.2 N/mm ²
After 1 day	1.8 N/mm ²

Suitable for

underfloor heating: Yes with addition of ARDEX E 90 Admix

PROPERTIES TESTED TO THE REQUIREMENTS OF BS EN 12004

Tensile Adhesion Strength Greater than 1 N/mm² under all test conditions.

Slip Resistance Slip - less than 0.5mm



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EN 12004:2007+A1:2012

ARDEX S 16
Improved fast setting cementitious adhesive for internal use with reduced slip



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NOTE: The information supplied in our literature or given by our employees is based upon extensive experience and, together with that supplied by our agents or distributors, is given in good faith in order to help you. Our Company policy is one of continuous Research and Development; we therefore reserve the right to update this information at any time without prior notice. We also guarantee the consistent high quality of our products; however, as we have no control over site conditions or the execution of the work, we accept no liability for any loss or damage which may arise as a result thereof.

Country specific recommendations, depending on local standards, codes of practice, building regulations or industry guidelines, may affect specific installation recommendations.

TECHNICAL ADVICE HELPLINE:

01440 714939

ARDEX online: www.ardex.co.uk