



CI/SfB

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OCTOBER 2005
BUILDING DIVISION
PRODUCT DATA SHEET

ARDEX S 20



ARDEX S 20 W



Flexible Grey or White Rapid Hardening and Rapid Drying Natural Stone Tile Adhesive

Features

Ideal for uncalibrated natural stones - reduced risk of water staining

Can be walked on and grouted 3 hours after fixing

For internal, dry or intermittently damp locations

For use on walls and floors

Adhesive bed thickness between 5mm and 20mm

Suitable for use on heated sub-floors

ARDEX S 20 W white is ideal for fixing light and translucent marble and other types of translucent natural stones

Rapidry Formula

RAPIDRY



What is the
Rapidry Formula?

It is the ability of the mortar to totally bind the water used for mixing, virtually eliminating the risk of water staining.



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ARDEX S 20 and S 20 W

Flexible Grey or White Rapid Hardening and Rapid Drying Natural Stone Tile Adhesive

DESCRIPTION

ARDEX S 20 is classified as C1 F "fast setting cementitious adhesive" and ARDEX S 20 W is classified as C2 F "improved fast setting cementitious adhesive with additional characteristics" in accordance with BS EN 12004. ARDEX S 20 is a special rapid hardening and drying, cement-based adhesive for fixing uncalibrated natural stone floor and wall tiles in internal situations. Tiles fixed with ARDEX S 20 can be grouted and subjected to foot traffic 3 hours after fixing at normal temperatures.

It is particularly suitable for use in situations where the adhesive bed has to dry quickly to reduce the risk of moisture staining of the stone. ARDEX S 20 is a grey or white powder based on special cements, high quality synthetic resins and fillers, which is mixed with water to produce a slump free, easily applied mortar with a working time of approximately 45-60 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. For fixing on wooden floors consult the ARDEX-FLEX 7001 Timber System data sheet. For asphalt floors consult the "Fixing Ceramic Tiles to Internal Asphalt Floors" data sheet.

ARDEX S 20 is not recommended for fixing tiles in external locations and permanently wet locations such as swimming pools etc. In these situations we recommend the use of ARDEX-FLEX S 38 for bedding floor tiles, and ARDEX X 7, ARDEX X 7 G Plus, ARDEX-FLEX 5000, ARDEX-FLEX 5001 or ARDEX-FLEX 6001 as appropriate for wall and floor tiling.

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 drying time for the background, as recommended in the relevant part of BS 5385, has elapsed prior to fixing the tiles. ARDEX S 20 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. Screeds based on calcium sulfate, e.g. anhydrite/ α hemihydrate screeds, should be dry and the surface suitably prepared before priming with ARDEX P 51 primer, diluted 1 part to 3 parts water.

NOTE: The surface of calcium sulfate based screeds should be prepared in accordance with the screed manufacturer's instructions. When fixing to very smooth, dense and impervious surfaces, such as existing ceramic floor tiles (glazed or unglazed), terrazzo etc., the surface should be initially primed with ARDEX P 82 primer.

MIXING

ARDEX S 20/S 20 W powder is added to clean water in a clean mixing container whilst stirring and mixed thoroughly to give a slump free, easily worked mortar. The mix proportions by bag are:

For bedding floor tiles approximately 7.7 litres of water per 22kg ARDEX S 20 and approximately 8.1 litres of water per 22kg ARDEX S 20 W.

The equivalent mix by volume is approximately 1 part of water to 2½ parts of ARDEX S 20/S 20 W powder.

The mortar is immediately ready for use and has a working time of approximately 45 to 60 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.

FIXING TECHNIQUES

For fixing natural stone tiles, use a suitably sized notched trowel to give a ribbed mortar bed on the substrate, into which the tiles are firmly bedded whilst the mortar is moist and soft. Floor tiles, slabs with keyed back profiles and translucent stones need to be buttered to ensure solid bedding. The area covered with ARDEX S 20 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.

On particularly rough or uneven surfaces it is advisable to pre-level the surface with ARDEX S 20 mortar and, once this initial layer has hardened, (approximately 3 hours after application) proceed with the normal fixing technique.

Holes and depressions can be pre-filled and substrates levelled providing that the substrate is sufficiently strong and the total thickness of adhesive and pre-leveling mortar does not exceed 20mm.

When fixing either stone tiles on gypsum wall plaster where the weight of the stone tiling is restricted to 20kg per square metre, or translucent natural stone tiles where an adhesive bed 3mm or less in thickness is required, ARDEX S 16 W should be used.

GROUTING

Natural stone tiles and slabs fixed in ARDEX S 20 may be grouted as soon as the tile bed is sufficiently firm, usually 3 hours after fixing at 20°C.

ARDEX MG Rapid Drying Marble and Natural Stone Grout should be used to grout marble and other natural stone slabs that are sensitive to moisture.

COVERAGE

Approximately 1.2kg of ARDEX S 20 powder per square metre per mm bed thickness.

A 22kg bag of ARDEX S 20 will cover approximately 3.6m² with a solid 5mm adhesive bed.

PACKAGING

ARDEX S 20 is packed in paper sacks incorporating a polyethylene liner - net weight 22kg.

STORAGE AND SHELF LIFE

ARDEX S 20 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.

PRECAUTIONS

ARDEX S 20 is considered non-hazardous in normal usage. The presence of cement in the product gives an alkaline mortar which may cause some local irritation if prolonged contact with the skin takes place. Care should be taken to avoid inhalation or ingestion of dust and prevent contact with the eyes.

For further information, consult the relevant health and safety data sheet.

TECHNICAL DATA

Bulk density of powder:	approximately	1.1kg/ltr
Weight of fresh mortar:	approximately	1.55kg/ltr
Material requirement:	approximately	1.2kg powder per m ² per mm
Working time (20°C):	approximately	45-60 minutes
Fixing time:	approximately	10 minutes (using freshly mixed mortar)
Adjusting time:	approximately	10 minutes
Walkability (20°C):	After approximately 3 hours;	then grouting is possible

Compressive strength:

After 1 day	approximately	15 N/mm ²
After 7 days	approximately	20 N/mm ²
After 28 days	approximately	23 N/mm ²

Tensile bending strength:

After 1 day	approximately	3.5 N/mm ²
After 7 days	approximately	5.0 N/mm ²
After 28 days	approximately	6.0 N/mm ²

Suitable for underfloor heating: Yes

Marking according to dangerous substances regulations: None

PROPERTIES TESTED TO THE REQUIREMENTS OF BS EN 12004

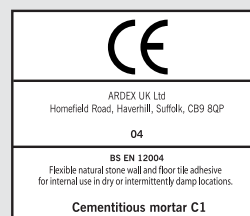
ARDEX S 20

Tensile Adhesion Strength:

Greater than 0.5 N/mm² under all test conditions.

Open time:

Greater than 0.5 N/mm² @ 10 Minutes



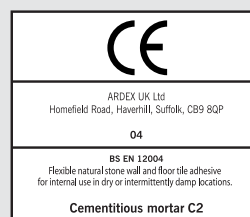
ARDEX S 20 W

Tensile Adhesion Strength:

Greater than 1.0 N/mm² under all test conditions.

Open time:

Greater than 0.5 N/mm² @ 20 Minutes



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.