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PRODUCT DATA SHEET

# ARDEX X 7 R S1 ARDEX X 7 R S1 W

## Rapid Setting Flexible Adhesive for Floor and Wall Tiling

### Features

- Walk on and grout tiles after 3 hours
- New improved formulation with fibre technology for improved strength and flexibility with S1 deformability
- Water content can be adjusted to produce a slump-free mix for coving/skirting and wall tiles
- For use with all types of ceramic and porcelain tiles
- Suitable for use with underfloor heating, installations subject to limited vibration and in fully immersed areas
- For internal and external applications



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# ARDEX X 7 R S1 / ARDEX X 7 R S1 W

## Rapid Setting Flexible Adhesive for Floor and Wall Tiling

### DESCRIPTION

ARDEX X 7 S1 and ARDEX X 7 R S1 W are rapidsetting, flexible adhesives for wall and floor tiling. Highly polymer modified with S1 deformability, incorporating fibre technology to improve adhesion strength, grab and non-slip characteristics of the adhesive. It benefits from extended open time and working time allowing for larger mixes and application areas than standard rapid set adhesives and grouting can still commence after just 3 hours.

ARDEX X 7 R S1 and ARDEX X 7 R S1 W are classified to BS EN 12004 C2FES1 as an 'Improved fast setting deformable cementitious adhesive with extended open time' and are suitable for internal and external tiling. Additional characteristics include tensile adhesion strengths of

- greater than 0.5 N/mm<sup>2</sup> early adhesion value,
- greater than 1 N/mm<sup>2</sup> adhesion value,
- greater than 1 N/mm<sup>2</sup> after water immersion,
- greater than 1 N/mm<sup>2</sup> after heat aging,
- greater than 1 N/mm<sup>2</sup> after freeze thaw cycling, making this product suitable for internal and external situations, including swimming pools.

### USE

ARDEX X 7 R S1 and ARDEX X 7 R S1 W are ideal for fixing fully vitrified or porcelain tiles and other tiles with low porosity, as well as glass and porcelain mosaics, terrazzo, ceramics, natural stone (excluding translucent) and brick slips. For moisture-sensitive natural stone and agglomerated stone tiles, the use of an ARDEX 'RAPIDRY FORMULA' adhesive such as ARDEX S 27 W MICROTEC or ARDEX S 28 W Natural Stone Wall and Floor Tile Adhesives is recommended.

ARDEX X 7 R S1 and ARDEX X 7 R S1 W adhere strongly to most construction materials including concrete, cement/sand renders and screeds, heated subfloors, brickwork, blockwork, correctly primed calcium sulphate based screeds, tile backer board and plasterboard. Suitable for installations subject to limited movement and vibration. Suitable for use in internal and external locations, including swimming pools.

### SURFACE PREPARATION

The backgrounds and surfaces to receive the tiles must be clean, firm and free of dust, dirt, oil, grease and other barriers to adhesion. Ensure that the background has adequate drying time, as given in the relevant part of BS 5385, prior to fixing the tiles.

Install tiles in accordance with the relevant parts of BS 5385 and BS 8000: Part 11 Workmanship on Building Sites.

Backgrounds to receive ceramic tiles should be finished to Surface Regularity 1, i.e., so any gap under a 2m straight edge does not exceed 3mm.

The surface being adhered to must be matured and stable, as well as being strong enough to support the weight of the tiles being fixed. ARDEX X 7 R S1 and ARDEX X 7 R S1 W can be applied to dry or moist surfaces, but moisture sensitive materials must be dry and remain dry after fixing.

ARDEX WPC Waterproof Coating System can be used prior to tiling to create a waterproof protective coating that guarantees the prevention of water damage to floors and walls, by protecting moisture sensitive backgrounds in wet locations.

### MIXING

ARDEX X 7 R S1 and ARDEX X 7 R S1 W are added to clean water in a clean container whilst stirring. The use of an ARDEX mixing paddle with a 10mm chuck, variable speed electric drill makes light work of mixing.

For the semi-pourable consistency, a 20kg bag of ARDEX X 7 R S1 or ARDEX X 7 R S1 W requires up to 5 litres of water for floor tiling; or 4 to 4.25 litres of water for a slump-free consistency for wall/coving/skirting tiling.

The consistency of the adhesives can be adjusted to suit site conditions and the materials being fixed, however DO NOT EXCEED THE RECOMMENDED MAXIMUM AMOUNT OF WATER PER BAG.

The pot life of the mixed mortar is approximately 60 minutes at 20°C (45 minutes for the slump free consistency).

### APPLICATION

The mixed mortar is applied to the prepared surface with a trowel and then combed through with a suitably sized notched trowel to give a straight ribbed adhesive bed; the size of the notched trowel chosen depends on the tile size, the surface being tiled, the profile on the back of the tile and the degree of coverage required.

Tiles should then be fixed within the open time of the applied adhesive (below) and pressed into place with a twisting and sliding action to achieve the required contact as advised in BS 5385.

For tiling to walls in dry internal locations, current British Standard Codes of Practice recommend that maximum practical contact between the tile and the adhesive is achieved. Tiles with a surface area of less than 0.1 m<sup>2</sup>, but which weigh more per square metre than 70% of the background's capacity to carry the weight, should be solidly bedded. When tiling to floors and all external situations, or in wet areas such as showers and swimming pools, solid bed fixing should be achieved.

To ensure solid bed fixing with the semi-pourable mix, simply press the tile into place with a twisting and sliding action. With the slump-free mix, this usually requires the tiles to be buttered immediately ARDEX X 7 R S1 and ARDEX X 7 R S1 W have an open time of 30 minutes when measured in accordance with BS EN 12004: 2007 + A1: 2012. For optimum performance under typical UK site conditions however, tiles should be fixed within 20 minutes. The mortar should be applied at temperatures above 5°C.

### GROUTING

Grouting can proceed once the tile bed has hardened sufficiently so that the tiles will not be dislodged, normally 3 hours after application at 20°C. At this time, floor tiles will also be able to receive light foot traffic. Higher temperatures will shorten, and lower temperatures will extend these times.

Tile joints should be grouted with the appropriate ARDEX-FLEX Tile Grout: ARDEX-FLEX FL Rapid Setting Tile Grout for joints 3-15mm wide and ARDEX-FLEX FS Flexible Tile Grout for joints up to 4mm wide. Alternatively, for areas where superior resistance to chemicals, high standards of hygiene or a reduced maintenance regime is required, ARDEX EG 18 PLUS Epoxide Tile Grout can be used.

### COVERAGE

A 20kg bag of ARDEX X 7 R S1 or ARDEX X 7 R S1 W will yield approximately 14.3 litres of mortar, equivalent to approximately 4.7m<sup>2</sup> at 3mm bed thickness. Material requirement is approximately 1.4kg powder per m<sup>2</sup> per mm. Coverage will vary depending on nature and flatness of surface and on the trowel used.

# ARDEX X 7 R S1 / ARDEX X 7 R S1 W

## Rapid Setting Flexible Adhesive for Floor and Wall Tiling

### GUIDANCE NOTES ON BACKGROUNDS TO BE TILED

#### Concrete

Allow at least 6 weeks, preferably at least 12 weeks, drying time prior to fixing tiles onto new concrete. Mechanically clean the concrete surface and ensure mould, oil, curing agents, hardeners/ sealers etc. are removed.

#### Cement/sand render and screed

Wood float finish. Prevent rapid drying of render surfaces for 3 days and screed surfaces for 7 days. Allow cured renders to air dry for at least 2 weeks and screeds at least 3 weeks prior to tiling. NOTE for Screeds: With ARDEX A 38 Ultra Rapid Drying Cement for Internal & External Screeds, tiles can be fixed after only 4 hours or a bonded ARDEX A 29 screed after 24 hours.

NOTE for Renders: With ARDEX AM 100 Rapid Hardening One Coat Tile Render tiles can be fixed after just 2 hours.

#### Gypsum plaster

Gypsum plaster and boards should not be used in wet or damp conditions. Gypsum plaster must be dry and at least 4 weeks old before tiling. Wire brush in situ plaster to remove dust, and prime with ARDEX P 51 Primer. Tiling weight should not exceed 20kg/m<sup>2</sup>.

#### Paper-faced plasterboard

Ensure boards are rigidly braced and adequately supported. Fix directly to the paper facing. Do not skim with plaster. Tiling weight should not exceed 32kg/m<sup>2</sup>.

#### Wood-based sheets and boards

Ensure that new or existing boards are dry i.e., conditioned to the environment in which they will be used, and are rigidly fixed, ventilated and free from barriers to adhesion.

For wall tiling, BS 5385-1 advises that plywood and other wood-based sheets or boards should not be used for direct tiling to walls. Since plywood and other wood-based boards are not dimensionally stable, they should not be used in wet or damp conditions where they will be subjected to changes in atmospheric humidity.

#### Existing tongue and groove softwood

Floorboards of traditional construction should be screwed or nailed down to the joists to provide a rigidly fixed, flat and adequately braced surface. Any existing floor polish, wax, old adhesive should be removed e.g., by sanding to expose a clean surface prior to tiling.

Plywood should have the backs and edges sealed e.g., with polyurethane varnish and be at least 15mm thick. They should be screwed the joists at 300mm centres or less.

The board surface should be clean and free of barriers to adhesion e.g. fire retardants, impregnated wax etc. Some floor systems require the joints to be glued together and guidance from the manufacturer should be sought. The timber should be at an equilibrium moisture content i.e., the state of dryness it will attain in normal service conditions, at the time it is covered. In all cases, the timber surface to be tiled should be stable and adequately strong and suitably rigid to withstand the imposed traffic, loads and vibration without deflection.

Extra noggins may be required between joists to stiffen floors as advised in BS 5385-3. The timber floor surface must only be primed with either ARDEX P 51 Primer undiluted or ARDEX P 82 Primer. Other proprietary manufacturer's primers are not recommended. Ceramic tiles should not be used on timber-based boards in wet areas or external locations.

Floating timber floors entail a high element of risk as a base for rigid floor finishes such as ceramic tiling and should be avoided. If the floor is deemed suitable, consider the use of an uncoupling membrane or tile backer board. (BS 5385-3:2014).

ARDEX X 7 R S1 or ARDEX X 7 R S1 W must not be mixed with more than the recommended amount of water as excess moisture will cause timber movement.

**NOTE:** If the above precautions are not carried out there will be an increased risk of the installed tiling cracking and delaminating. For commercial installations or where the floor may be subject to vibration, e.g. from washing machines, then the use of a proprietary intermediate substrate system is recommended.

#### Painted surfaces

ARDEX's advice is always to remove the painted finish to reveal a sound substrate without barriers to adhesion. Where the contractor deems the painted finish as sound, it should be primed with ARDEX P 82 primer before tiling with ARDEX X 7 R S1/W commences. A trial application is recommended first. Internal, dry areas only. Installation onto painted walls/ceilings is not recommended.

#### Calcium sulphate-based screeds i.e. Anhydrite

Ensure the calcium sulphate-based screeds have been laid and prepared in accordance with the manufacturers' recommendations. Generally they require sanding and drying to a moisture content of 0.5% or less. Prime with ARDEX P 51, diluted 1:3 with water or, dependent of the information from the gypsum screed manufacturer, a suitably sand blinded coat of an epoxy primer such as ARDEX R 3 E may be required.

#### Existing glazed ceramic tiling

Ensure existing tiling is well adhered and can support the new tile bed. Thorough cleaning and rinsing off is essential. Prime the tiles with ARDEX P 82 Primer (internal dry areas only) or ARDEX P 4 Primer (internal and external locations).

#### Fibre-reinforced cement boards and lightweight tile backer boards

Install boards to BS 5385 i.e. moisture-resistant boards screwed to seasoned framework at maximum 300mm centres vertically and horizontally. Important note: Obtain manufacturer's confirmation that boards are suitable for tiling and for relevant fixing instructions.

#### Brickwork

Allow new walls to dry for at least 6 weeks, preferably 12 weeks, prior to direct fixing or rendering.

#### Concrete Blockwork

Allow 6 weeks, preferably 12 weeks, drying time prior to direct fixing or rendering.

#### Asphalt-sanded

With a well adhered sand key, priming is not required. Internal areas only. If sand key is poor or worn off, proceed as for smooth asphalt.

#### Asphalt-smooth

Internal flooring grade only. Must be of suitable grade, clean, in sound condition and have adequate cohesive strength. Priming with ARDEX P 82 Primer recommended. Internal dry areas only.

#### Underfloor heating

ARDEX X 7 R S1 or ARDEX X 7 R S1 W are both suitable for fixing ceramic tiles to concrete, cement/sand screeds with fully commissioned underfloor heating or electric undertile mats/cables encapsulated in a suitable levelling compound.

#### PACKAGING

ARDEX X 7 R S1 and ARDEX X 7 R S1 W are packed in paper sacks incorporating a polyethylene liner net weight 20kg.

#### STORAGE AND SHELF LIFE

ARDEX X 7 R S1 and ARDEX X 7 R S1 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 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 [www.ardex.co.uk](http://www.ardex.co.uk)

# ARDEX X7R S1 / ARDEX X7R S1 W

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### TECHNICAL DATA

Working time (20°C)	approximately 60 minutes
Adjustment time (20°C)	approximately 20 minutes

### TENSILE ADHESIVE STRENGTH

Minimum Tensile Adhesion Strength	
(28 days dry)	1.0 N/mm <sup>2</sup>
(28 days wet)	1.0 N/mm <sup>2</sup>
(After Freeze-Thaw)	1.0 N/mm <sup>2</sup>
(24 hours dry)	0.5 N/mm <sup>2</sup>

**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](http://www.ardex.co.uk)**

