

# ArdiFlex S1

High performance, fibre reinforced, deformable tile/stone adhesive

## DESCRIPTION

High polymer modified, off-white coloured adhesive formulated with enhanced properties of slip resistance, flexibility and extended open time necessary for fixing large format tiles and stones on wall/floor in interior/exterior situations.

ArdiFlex S1 is fibre reinforced to increase the flexural and bond strength of the adhesive and to impede the crack propagation in the composite material.

## STANDARDS

- Conforms to EN 12004 : 2017 and is a deformable (S1) improved (2) slip resistant (T) cementitious adhesive (C) with extended open time (E) of class C2TES1.
- Complies with the requirements of IS 15477 : 2004 Type 2 "Specification for adhesives for use Ceramic Tiles and Mosaics".

## USES

Fixing large format tiles/stones on :

- Cement & lime renders
- Fibre cement boards, plaster boards, gypsum boards (rigidly fixed)
- Pre-fabricated concrete walls
- Cementitious floor screed
- Areas subjected to heavy foot traffic
- Existing tiled surface

## FEATURES

- Fibre reinforced for high performance and strength
- Deformable: accommodates differential movement of the covering
- Good slip resistance required for fixing large format wall tiles
- Extended open time
- Bed thickness upto 15mm: suitable for tiling on uneven substrates
- Excellent bond to various building materials
- Excellent water and frost resistance
- Excellent tensile & shear adhesion
- Easy mixing, smooth application & good workability

## PHYSICAL PROPERTIES

ArdiFlex S1	@ 27± 2°C
Mixed Density	1.40 - 1.45 g/cc
Bed Thickness	2 - 15mm
Mixing Ratio (p.b.w = Parts by weight)	approx. 1 part of water and 4.40 parts of powder
Pot Life	approx. 3 hours
Setting Time	24 hours

Ready for grouting

Walls approx. 10 hours  
Floors approx. 24 hours

Temperature Resistance -30°C to 150°C

VOC Content 3.78 g/L

## Properties tested to IS 15477:2004 (Type2) @ 27± 2°C

Open Time 30 - 35 mins

Adjustability 25 - 30 mins

Shear Adhesion Strength

1 Day Air 5 kN

14 Days Air 18 kN

## Properties tested to EN 12004 : 2017@ 23± 2°C

Transverse Deformation 3.5 mm

Extended open time 0.6 N/mm<sup>2</sup> above 30 mins

Slip test 0.1 mm

Tensile Adhesion Strength  
EN 1348

after initial @ 28 days 1.82 N/mm<sup>2</sup>

after heat ageing 1.16 N/mm<sup>2</sup> (14 days curing @ 23±2°C & 50±5% & then 14 days place at 70±2°C)

after water immersion 1.05 N/mm<sup>2</sup> (7 days curing @ 23±2°C & 50±5% & then 20 days immersed in water)

## COVERAGE ESTIMATES

Pack size Coverage  
50 kg approx. 1.2 kg/m<sup>2</sup>/mm

**Note:** Coverage will depend on the nature and flatness of the surface and the method of application. For good coverage, it is vital that all surfaces are smooth, plumb, level and free from defects and undulations.

## APPLICATION INSTRUCTIONS

### Substrate Preparation

Before starting any work ensure that the base is:

- Sufficiently flat to permit the specified flatness of finished tiling, bearing in mind the permissible thickness of the adhesive.
- Suitable for tiling in the service conditions to which it will be exposed.
- Surfaces to be tiled must be dry, clean and free from loose material and contamination.

### Mixing

Add ArdiFlex S1 to clean water. Mix thoroughly until a lump-free mortar is obtained. A 50 kg bag will require approx. 11.25 - 12.00 litres of water to obtain a slump-free consistency. The adhesive is

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immediately ready-for-use and has a pot life of approx. 3 hours. No further water should be added. Where mixing by weight is not possible, volume mixing can be carried out at site in the ratio of approx. 1 : 3.5 (water : powder)

### APPLICATION

1. Spread not more than the area which can be tiled within the open time of the adhesive.
2. Comb the adhesive to the required depth using a suitable square notch trowel.
3. Press the tiles firmly into position, checking periodically that good contact is maintained with the back of each tile. Leave no voids behind tiles.
4. Tiles should be fixed within 25 minutes of adhesive being applied, depending on the porosity of the surface and atmospheric conditions. Tiles can be adjusted up to 25 minutes after fixing. Touch the adhesive ribs periodically and if a skin has formed, remove the adhesive and apply a new layer.
5. Leave adequate joints between individual wall and floor tiles unless self spacing tiles are used.
6. Clean off surplus adhesive from the tile face and between joints.

### Note:

- Do not use in damp conditions and temperature less than 5°C
- Use suitable clamps along with adhesive at the time of installation of tiles/stones at height of more than 6m. For larger format tiles/stones, use clamps from 3.3m height.
- Leave movement joints at every 3m vertical interval and fill with a flexible sealant as per BS 5385.

### SPACERS

Use ARDEX ENDURA spacers for uniform joint width.

### GROUTING

Grouting should be carried out after 24 hours on floors and after 10 hours on walls. Use the appropriate grouting material from the range of ARDEX ENDURA cementitious and epoxy grouts.

Note: The addition of ADMIX GT 1 to cement - based grouts will enhance adhesion to tile/stones edges, increase water-resistance and improves flexibility.

### CLEANING

Tools and containers may be cleaned using clean water when the adhesive is still fresh. The hardened adhesive can be removed from tools mechanically.

### STORAGE AND SHELF LIFE

ArdiFlex S1 has a shelf life of 12 months when stored in normal dry conditions.

### PRECAUTIONS

Keep out of reach of children. Wear suitable protective clothing, gloves and eyes/face protection. After contact with skin, wash immediately with plenty of clean water. In case of contact with eyes rinse immediately with plenty of clean water and seek medical advice.

For more details please refer the relevant Material Safety Data Sheet

### CONDITIONS OF SALE

Sold subject to the Company's conditions of sale which are available on request.

### NOTE

The information supplied in this datasheet is based upon extensive experience and 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.



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