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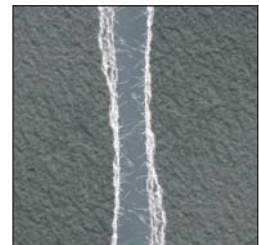
AUGUST 2021  
PRODUCT DATA SHEET

# ARDEX X78 S ARDEX X78 W S

## MICROTEC Flexible Ultra Rapid Setting Semi-Pourable Floor Tile Adhesive

### Features

- MICROTEC fibre reinforced for high performance
- Semi-pourable consistency ideal for solid bed fixing large format floor tiles
- Ultra rapid setting and hardening – walk on and grout after only 90 minutes
- Ideal for all tile types including porcelain, fully vitrified, mosaics and terrazzo
- High yield
- Suitable for floors with underfloor heating
- Ideal for swimming pools and wet areas
- For internal and external applications



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# ARDEX X 78 S / ARDEX X 78 W S

## MICROTEC Flexible Ultra Rapid Setting Semi-Pourable Floor Tile Adhesive

### DESCRIPTION

ARDEX X 78 S and ARDEX X 78 W S are grey or white MICROTEC fibre reinforced, ultra rapid setting cement-based floor tile adhesives which can be walked on and grouted after only 90 minutes. Specifically formulated to have enhanced properties of adhesion and flexibility, their unique semi-pourable consistency makes them ideal for fixing large format floor tiles.

### USE

ARDEX X 78 S is ideal for fixing fully vitrified or porcelain tiles, and other tiles with low porosity, as well as glass and porcelain mosaics and terrazzo. The BS EN 12004 C2 FE S1 designation for ARDEX X 78 S and ARDEX X 78 W S classifies the adhesives as 'Improved fast setting deformable cementitious adhesive with extended open time'.

The additional characteristics for ARDEX X 78 S and ARDEX X 78 W S determined in accordance with BS EN 12004 are a tensile adhesion strength of 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 and greater than 1 N/mm<sup>2</sup> after freeze thaw cycling, making this product suitable for internal and external situations, including swimming pools.

The enhanced setting and hardening performance of ARDEX X 78 S and ARDEX X 78 W S means that after only 6 hours, the adhesive has already achieved the EN 12004 requirement of 0.5N/mm<sup>2</sup>.

The mixed mortar has an easily workable, semi-pourable consistency to facilitate large format floor tile fixing. ARDEX X 78 S and ARDEX X 78 W S adhere strongly to most construction materials such as concrete, cement and sand screeds, heated sub-floors, anhydrite screeds, and existing ceramic tiled surfaces.

### SURFACE PREPARATION

The backgrounds and surfaces to receive the tiles must be clean, firm, 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 5385-3, 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.

ARDEX X 78 S and ARDEX X 78 W S can be applied to dry or moist surfaces, but moisture sensitive materials must be dry and remain dry after fixing. ARDEX WPC Waterproof Protection 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 78 S and ARDEX X 78 W S powder is added to clean water in a clean container, whilst stirring and mixed thoroughly to give a semi-pourable, easily worked mortar. The use of an ARDEX mixing paddle with a 10mm chuck, variable speed, electric drill makes light work of mixing.

The mix proportions by volume are approximately: 2<sup>3</sup>/<sub>4</sub> parts ARDEX X 78 S and ARDEX X 78 W S powder : 1 part water.

A 20kg bag of ARDEX X 78 S and ARDEX X 78 W S requires up to 7.0 litres of water. DO NOT EXCEED the maximum of 7.0 litres of water per 20kg bag of ARDEX X 78 S and ARDEX X 78 W S.

The consistency of the adhesives can be adjusted to suit site conditions and the materials being fixed. The mortar should be applied at temperatures above 5°C.

The pot life of the mixed mortar is approximately 30 minutes at 20°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.

ARDEX X 78 S and ARDEX X 78 W S have an open time of up to 30 minutes with freshly mixed material, when used in accordance with BS EN 12004. For optimum performance, tiles should be fixed within 20 minutes and can be adjusted for up to 15 minutes at 20°C.

### GROUTING

Grouting can proceed once the tile bed has hardened sufficiently so that the tiles will not be dislodged. When grouting floor tiles, ARDEX X 78 S and ARDEX X 78 W S is normally hard enough after 90 minutes at 20°C to accept foot traffic depending on the porosity of the tile and the background. Higher temperatures will shorten, and lower temperatures will lengthen these times. The tile joints should be grouted with the appropriate ARDEX-FLEX Tile Grout, or the appropriate ARDEX Epoxy Grout for areas where chemical resistance and hygienic joints are required i.e. commercial food and preparation areas.

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### COVERAGE

A 20kg bag of ARDEX X 78 S and ARDEX X 78 W S will yield approximately 16.5 litres of mortar, using approximately 1.2kg of powder per m<sup>2</sup> 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 X 78 S and ARDEX X 78 W S will cover approximately 9.4m<sup>2</sup> when using a 5mm x 5mm square toothed and notched trowel.

### PRIMERS

#### **ARDEX P 51**

Concentrated Water-Based Primer and Bonding Agent for use on absorbent backgrounds, concrete and anhydrite/calcium sulfate screeds prior to the use of ARDEX X 78 S or ARDEX X 78 S W adhesive. Dilute ARDEX P 51 1:3 with water.

#### **ARDEX P 4**

Ready Mixed, Multipurpose, Rapid Drying Primer for use on ceramic and porcelain tiles, concrete and terrazzo. ARDEX P 4 Primer is solvent free and dries after 60 minutes. It is suitable for use in dry, damp or wet (not submerged) internal and external locations.

#### **ARDEX P 82**

Non-flammable, Water-Based, Synthetic Primer for use in dry areas on, smooth impervious surfaces including existing ceramic tiling, internal asphalt, terrazzo, sound and well adhered paint coatings and old adhesive residues, prior to the use of ARDEX X 78 S or ARDEX X 78 W S.

### 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 prepare concrete and ensure mould oil and curing agents are removed.

#### **Cement/sand screed**

Wood float finish and prevent rapid drying of the surface for 7 days. Allow to air dry for at least 3 weeks prior to tiling.

#### **Note for Screeds:**

With an ARDEX A 38 cement/sand screed, tiles can be fixed after only 4 hours.

#### **Wood-based sheets and boards**

Prior to tiling, 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. ARDEX recommend the use of ARDEX S 27, ARDEX S 28 or ARDEX X 7001 adhesives and ARDEX P 51 Primer.

**NOTE:** BS 5385 advises that wood based sheets and boards should be avoided if at all possible as a background for tiling. If such boards, e.g. plywood, etc. have to be used, they should be restricted to small areas and installed in such a way that they provide a dimensionally stable and rigid background. The backs and edges of such boards should be treated against the ingress of atmospheric moisture that would result in movement and warping.

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. Ceramic tiles should not be used on timber based boards in wet areas or external locations.

#### **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 X78S/WS commences. A trial application is recommended first. Internal, dry areas only.

#### **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 measured using the carbide method. Prime with ARDEX P 51, diluted with 3 parts of water.

#### **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 tiles with ARDEX P 82 (Internal dry areas only), or ARDEX P 4 (internal and external locations).

#### **Asphalt sanded**

With well adhered sand key no primer is required. Internal areas only. If sand key is poor or worn off, proceed as for smooth asphalt.

#### **Asphalt smooth**

Priming with ARDEX P 82 recommended. Internal dry areas.

#### **Underfloor heating**

ARDEX X 78 S and ARDEX X 78 W S are suitable for fixing ceramic tiles to concrete or cement and sand screeds with fully commissioned underfloor heating.

### PACKAGING

ARDEX X 78 S and ARDEX X 78 W S are packed in paper sacks incorporating a polyethylene liner - net weight 20kg.

# ARDEX X 78 S / ARDEX X 78 W S

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### STORAGE AND SHELF LIFE

ARDEX X 78 S contains a reducing agent to control the level of Chromium VI when mixed prior to use. ARDEX X 78 S must be stored in unopened packaging, clear of the ground in cool dry conditions and protected from excessive draught. If stored correctly, as detailed above, and used within 6 months of the date shown on the packaging, the activity of the reducing agent (added to control the level of soluble Chromium VI) will be maintained and this product will contain, when mixed with water, no more than 0.0002% (2ppm) soluble Chromium VI of the total dry weight of the cement content of this product. Use of the product after the end of the declared storage period may increase the risk of allergic reaction.

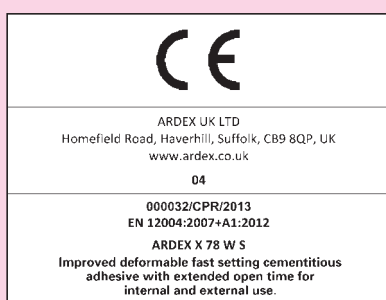
ARDEX X 78 W S must be stored in unopened packaging, clear of the ground in cool dry conditions and be protected from excessive draught. If stored correctly, as detailed above, the shelf life of this product is 6 months from the date shown on the packaging.

ARDEX X 78 S and X 78 W S must not be used after the end of the declared storage period.

### PRECAUTIONS

ARDEX X 78 S and ARDEX X 78 W S contain more than 20% portland cement and, therefore, in line with current legislation, is classified as irritating to eyes and skin. For this reason the following precautions should be observed:-

Avoid contact with skin and eyes; in case of contact with the eyes, rinse immediately with plenty of water and seek medical advice; wear suitable gloves and keep the product out of the reach of children. Avoid generation of airborne dust during mixing.



### TECHNICAL DATA

Bulk density of powder	approximately 1.2kg/litre
Weight of fresh mortar	approximately 1.6kg/litre
Working time (20°C)	approximately 30 minutes
Pot life:	30 minutes
Fixing time (20°C)	approximately 30 minutes
Adjusting time (20°C)	approximately 15 minutes
Tensile adhesion strength	greater than 1 N/mm <sup>2</sup>

### PROPERTIES TESTED TO BS EN 12004

**Open Time:** approximately 30 minutes

### Tensile Adhesion Strength:

At least 0.5N/mm<sup>2</sup> at 6 hours

### PROPERTIES TESTED TO BS EN 12004

**Transverse Deformation:** Classification S1  
(Deformation greater than or equal to 2.5mm and less than 5mm)

**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)

**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)**