CI/SfB Yt3

JANUARY 2026
(SUPERSEDES MAY 2025)
PRODUCT DATA SHEET

ARDEX X 77 S

MICROTEC Flexible Ultra Rapid Setting Grey Wall and Floor Tile Adhesive

Features

- MICROTEC fibre reinforcement for high performance
- Ultra rapid setting and hardening – walk on and grout after only 90 minutes
- Advanced slump resistance, double that of 'T' classified adhesives, ideal for fixing large format wall tiles
- Ideal for all tile types including porcelain, fully vitrified, mosaics and terrazzo
- High yield – 5.5m² @ 3mm
- Rapid strength development allows floors to be put back in use and subject to full loads after 24 hours
- Ideal for swimming pools and wet areas
- For internal and external applications
- Suitable for underfloor heating

ARDEX X 77 S tested in accordance with IMO FTP Code procedures is in compliance with the Merchant Shipping (Marine Equipment) Regulations 2016, S.I. 2016/1025, and the Marine Equipment Directive 2014/90/EU, and approved for use as a primary deck covering. USCG Approval No(s): 164.106/1121/WCL MER 0446, 164.106/2812/ERD MED 0446.

bsi ISO 9001 Quality Management Systems CERTIFIED Reg No. FM 01207
ISO 14001 Environmental Management CERTIFIED EMS 565427
ISO 45001 Occupational Health and Safety Management CERTIFIED OHS 628374

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ARDEX X 77 S

MICROTEC Flexible Ultra Rapid Setting Grey Wall and Floor Tile Adhesive

DESCRIPTION
ARDEX X 77 S is a grey MICROTEC fibre reinforced, ultra rapid setting and hardening, cement-based, floor and wall tile adhesives. Specifically formulated to have enhanced properties of adhesion and flexibility, the advanced slump resistance properties make ARDEX X 77 S ideal for fixing large format wall tiles.

USE
ARDEX X 77 S is ideal for fixing ceramic or fully vitrified tiles and other tiles with low porosity, as well as glass and porcelain mosaics, and terrazzo.

ARDEX X 77 S will adhere strongly to most construction materials including concrete, cement and sand renders and screeds, heated sub-floors, brickwork and blockwork, gypsum plaster, plasterboard and existing ceramic tiled surfaces.

The BS EN 12004 C2 FTE S1 designation for ARDEX X 77 S classify the adhesives as 'Improved fast setting deformable cementitious adhesive with reduced slip and extended open.'

The enhanced setting and hardening performance of ARDEX X 77 S means that after only 24 hours, the adhesive can withstand full loads.

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, as well as being strong enough to support the weight of the tiles being fixed. Ensure that the background has adequate drying time, as given in the relevant part of BS 5385, and correctly primed, where required, 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 77 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 in showers 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 77 S powder is 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 makes light work of mixing.

The mix proportions by volume are approximately: 2¾ parts ARDEX X 77 S powder to 1 part water.

A 20kg bag of ARDEX X 77 S requires approximately 6.8 litres of water. DO NOT EXCEED the maximum water content.
The consistency of the adhesive can be adjusted to suit site conditions and the materials being fixed. The mixed adhesive 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 to achieve the required contact. For tiling to walls in dry internal locations the adhesive contact should be such that maximum practical contact between the tile and the adhesive is achieved. Tiles with a surface area of less than 0.1 m^2, but which weigh more per square metre than 70% of the background's capacity to carry the weight, should be solidly bedded. Tiles with a surface area of 0.1 m^2 or greater, should be solidly bedded.
When tiling to floors, wet areas such as showers and swimming pools, or in external locations achieving a solid bed usually requires the back of the tiles to be buttered immediately prior to placing into the ribbed bed so no voids are left beneath the tiles.

The size of 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.

ARDEX X 77 S is classified as having an open time of up to 20 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 wall tiles, ARDEX X 77 S is normally hard enough after 60 minutes at 20°C, depending on the porosity of the tile and the background.

When grouting floor tiles ARDEX X 77 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 preparation areas.

COVERAGE
A 20kg bag of ARDEX X 77 S will yield approximately 16.7 litres of mortar, using approximately 1.2kg of powder per m^2 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 77 S will cover approximately 9.5m^2 when using a 5mm x 5mm square toothed and notched trowel.

PRIMERS
ARDEX P51
Concentrated Water-Based Primer and Bonding Agent for use on absorbent backgrounds, concrete and anhydrite/calcium sulphate screeds prior to the use of ARDEX X 77 S. 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 30 minutes. It is suitable for use in dry, damp or wet (not submerged) internal and external locations.

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ARDEX P 82
Non-Flammable, Water-Based Synthetic Primer for use 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 77S.

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 render and screed
Wood float finish and prevent rapid drying of the surface for 3 days (renders) or 7 days (screeds). Allow render to air dry in good conditions for at least 2 weeks prior to tiling or at least 3 weeks for screeds prior to tiling.
Note for Screeds:
With an ARDEX A 38 cement/sand screed, tiles can be fixed after only 4 hours.
Note for Renders:
With ARDEX AM100 Rapid Hardening One Coat Tile Render tiles can be fixed only 2 hours after application.

Gypsum Plaster
Do not use in wet or damp conditions. Gypsum plaster must be dry and at least 4 weeks old prior to tiling. Wire brush plaster to remove dust. Use ARDEX P51 primer.
Tiling weight should not exceed 20kg/m^2.

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^2.

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.

Wood-based sheets and boards
NOTE: As of May 2024 Plywood/Timber is not a suitable base for tiling directly to on walls or floors
- BS 5385 -3: 2024.

Option 1 - Overlay with a suitable tilebacker board of appropriate thickness and fixed as per manufacturers instructions.
Option 2 - An uncoupling matting such as ARDEX Flexbone VA/2E* can be selected providing that the plywood/timber floor is:
• the correct grade
• sufficiently dry, rigid and stable
• able to carry all anticipated static and dynamic loads without deflection
• have adequate ventilation below
• flat and level (SR1)
• securely fixed (screwed to joists at 300mm centres, including any cross-noggins, if necessary)

When installing bonded uncoupling mattings down to the surface of the timber with AF 200 Plus*, it should be prepared to receive the adhesive. Sanding of the timber surface may be required to ensure any surface coatings are removed, e.g. varnish, lacquers, etc.
*Refer to the relevant product data sheet for further advice.

NOTE: BS 5385-1 advises that plywood and other wood-based sheets or boards should not be used for direct tiling to walls. Timber-based sheets or boards should be replaced or over sheeted with plasterboard, or suitable tile backer board.

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 77 S 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 or dependent of the information from the gypsum screed manufacturer, a suitably sand blinded coat of an epoxy based 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 tiles with ARDEX P 82 (Internal dry areas only), or ARDEX P 4 (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 77 S is suitable for fixing ceramic tiles to concrete or cement and sand screeds
with fully commissioned underfloor heating.

PACKAGING
ARDEX X 77 S is packed in paper sacks incorporating a polyethylene liner - net weight 20kg.

STORAGE AND SHELF LIFE
ARDEX X 77 S contains a reducing agent to control the level of Chromium VI when mixed prior to use.
ARDEX X 77 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 77 S must not be used after the end of the declared storage period.

PRECAUTIONS
ARDEX X 77 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 prod-uct out of the reach of children. Avoid generation of airborne dust during mixing.

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TECHNICAL DATA

Bulk density of powder:	approximately 1.1kg/litre
Weight of fresh mortar:	approximately 1.6kg/litre
Working time (20°C): Pot Life:	approximately 30 minutes 30 minutes
Fixing time (20°C):	approximately 30 minutes
Adjusting time (20°C):	approximately 15 minutes

Tensile Adhesion Strength: Greater than 1 N/mm^2

PROPERTIES TESTED TO BS EN 12004

Open Time:	approximately 20 minutes Slip -
Slip Resistance:	less than 0.5mm
Tensile Adhesion Strength:	At least 0.5 N/mm^2 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**

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EN 12004:2007+A1:2012
ARDEX X 77 S
Improved deformable fast setting cementitious adhesive for internal and external use with reduced slip and extended open time.

ARDEX GROUP WARRANTY

ARDEX Group supplies products under a range of Brands into the UK and Ireland markets. This Warranty applies to BAL, ARDEX, Gutjahr, Wakol, Loba, wedi or Knopp products whether used individually or in combination provided they are used in accordance with the relevant product datasheets and the warranty terms and conditions are available on the website. This Warranty applies only to Products purchased and used in the UK and Ireland directly from one of the Brands or a Brand authorised stockist.

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
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