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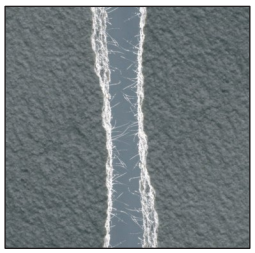
MAY 2025
(SUPERSEDES January 2016)
PRODUCT DATA SHEET

ARDEX X 77
ARDEX X 77 W

MICROTEC Flexible Wall and Floor Tile Adhesive

Features

- MICROTEC fibre reinforced
- Achieves an open time of up to 60 minutes, double that of 'E' classified adhesives
- 3 hour pot life
- Advanced slump resistance, double that of 'T' classified adhesives, ideal for fixing large format wall tiles
- High yield – up to 8m^2 using an 8mm x 8mm trowel
- Ideal for all tile types, including porcelain, fully vitrified, mosaics and terrazzo
- Ideal for swimming pools and wet areas
- Suitable for underfloor heating
- For internal and external applications



ISO 9001 Quality Management Systems CERTIFIED
ISO 14001 Environmental Management CERTIFIED
ISO 45001 Occupational Health and Safety Management CERTIFIED

Reg No. FM 01207 EMS 565427 OHS 628374

ARDEX UK LIMITED
Homefield Road, Haverhill, Suffolk CB9 8QP UK.
Telephone: +44 (0)1440 714939
Fax: +44 (0)1440 716640
Email: info@ardex.co.uk
ARDEX online: www.ardex.co.uk

ARDEX X 77 / ARDEX X 77 W

MICROTEC Flexible Wall and Floor Tile Adhesive

DESCRIPTION
ARDEX X 77 and ARDEX X 77 W are grey or white, MICROTEC fibre reinforced, cement-based, floor and wall tile adhesives, with an extended open time of up to 60 minutes. Specifically formulated to have enhanced properties of adhesion and flexibility, the advanced slump resistance properties make ARDEX X 77 and ARDEX X 77 W ideal for fixing large format wall tiles.

USE
ARDEX X 77 is ideal for fixing ceramic or fully vitrified tiles and other tiles with low porosity, as well as glass and porcelain mosaics, and terrazzo. The BS EN 12004 C2 TE S1 designation for ARDEX X 77 and ARDEX X 77 W classifies the adhesives as an "improved cementitious adhesives with additional characteristics, reduced slip and extended open time". ARDEX X 77 and ARDEX X 77 W have an extended open time of up to 60 minutes, twice the requirement of BS 12004, and double the slump resistance of 'T' classified adhesives. The additional characteristics for ARDEX X 77 and ARDEX X 77 W, determined in accordance with BS EN 12004, makes these products ideal for fixing all types of ceramic tiles and mosaics, in internal and external situations, including swimming pools.

The mixed mortar has a slump free consistency with very high initial grab enabling heavy wall tiles to be fixed, thus reducing the need for battens and spacers. ARDEX X 77 and ARDEX X 77 W adhere strongly to most construction materials such as concrete, cement and sand renders and screeds, heated sub-floors, brickwork and blockwork, gypsum plaster, plasterboard and primed 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, 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 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 77 and ARDEX X 77 W 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: 2 parts ARDEX X 77 or ARDEX X 77 W powder to 1 part water. A 20kg bag of ARDEX X 77 or ARDEX X 77 W requires approximately 8.5 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 mortar should be applied at temperatures above 5°C.

The pot life of the mixed mortar is approximately 3 hours at 20°C.

APPLICATION
The mixed adhesive 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 m2, 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 m2 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 and ARDEX X 77 W are classified as having an extended open time of up to 60 minutes with freshly mixed material, when used in accordance with BS EN 12004. For optimum performance under typical UK site conditions tiles should be fixed within 40 minutes and tiles can be adjusted for up to 30 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 and ARDEX X 77 W are normally hard enough after 8 hours at 20°C, depending on the porosity of the tile and the background. When grouting floor tiles ARDEX X 77 and ARDEX X 77 W are normally hard enough after 24 hours 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 ARDEX EG 18 Plus Epoxy Grout for areas where chemical resistance and hygienic joints are required, i.e. commercial food preparation areas.

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COVERAGE
A 20kg bag of ARDEX X 77 or ARDEX X 77 W will yield approximately 19 litres of mortar, using approximately 1.05kg of powder per m2 per mm thickness of adhesive bed. The actual coverage achieved in practice will depend on the back profile of the tile, notched trowel and technique used to bed the tiles e.g. a 20kg bag of ARDEX X 77 or ARDEX X 77 W will cover up to 8m^2 when using an 8mm x 8mm square toothed and notched trowel.

PRIMERS
ARDEX P51
Concentrated Water-Based Primer and Bonding Agent for use on absorbent backgrounds, plaster and anhydrite/ calcium sulphate screeds prior to the use of ARDEX X 77 or ARDEX X 77 W. 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 30-60 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 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 77 or ARDEX X 77 W.

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 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 AM 100 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 P 51 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.

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
A trial area should be carried out by priming the sound paint coating with ARDEX P 82 primer prior to fixing the tiles in ARDEX X 77 or ARDEX X 77 W.

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 (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 and ARDEX X 77 W are suitable for fixing ceramic tiles to concrete or cement and sand screeds with underfloor heating.

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PACKAGING

ARDEX X 77 and ARDEX X 77 W are packed in paper sacks incorporating a polyethylene liner - net weight 20kg.

STORAGE AND SHELF LIFE

ARDEX X 77 and ARDEX X 77 W contain a reducing agent to control the level of Chromium VI when mixed prior to use. ARDEX X 77 and ARDEX X 77 W 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 12 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. ARDEX X 77 and ARDEX X 77 W must not be used after the end of the declared storage period.
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**

TECHNICAL DATA

Weight of fresh mortar:	approximately	1.5kg/litre
Working time (20°C):	approximately	3 hours
Fixing time (20°C):	up to	60 minutes
Adjusting time (20°C):	approximately	30 minutes

PROPERTIES TESTED TO BS EN 12004

Open Time:	approximately	60 minutes
Slip Resistance:	Slip - less than	0.5mm
Tensile Adhesion Strength:	Greater than	1 N/mm^2 under all test conditions.

PROPERTIES TESTED TO BS EN 12002

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

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
01440 714939
ARDEX online: www.ardex.co.uk