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# ARDEX X 77

## Premium Microtec Flexible Wall and Floor Tile Adhesive

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### Features

E(E) achieves up to double the extended open time of E class adhesives

T(T) achieves up to double the slump resistance of T class adhesives

More secure tiling system with Microtec Technology - improves adhesive strength, reduces the effect of shear strain and stress on tiling systems

ARDEX X 77 is ideal for fixing a range of tile types including fully vitrified, porcelain, natural stone, terrazzo and mosaics

Water and frost resistant - Ideal for swimming pools and wet areas

Excellent workability

Flexible – achieves S1 classification (S2 with ARDEX E 90)

Use over early age concrete/screeds and render

Efflorescence free due to the addition of special additives

Suitable for internal and external wall and floor tiling

Low VOC content – meets Green Building Council of Australia Green Star IEQ-13 requirements



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ARDEX Australia Pty Ltd  
20 Powers Road  
Seven Hills NSW 2147  
Tel: (02) 9851 9199  
Fax: (02) 9674 5621  
Email: [techinfo@ardexaustralia.com](mailto:techinfo@ardexaustralia.com)  
Internet: [www.ardex.com](http://www.ardex.com)



ARDEX New Zealand Ltd  
32 Lane St, Woolston  
Christchurch, New Zealand  
Tel: (03) 384 3029  
Fax: (03) 384 9779  
Email: [techinfo@ardexaustralia.com](mailto:techinfo@ardexaustralia.com)  
Internet: [www.ardex.com](http://www.ardex.com)

# ARDEX X 77

## Premium Microtec Flexible Wall and Floor Tile Adhesive

### DESCRIPTION

ARDEX X 77 is a high performance, fibre reinforced, polymer modified wall and floor tile adhesive, which has been specially formulated with Microtec Technology to give exceptional properties of adhesion. When mixed with water, an extremely smooth, creamy mortar is produced with superior slump resistance and double extended open time. ARDEX X 77 is ideal for fixing all types of tiles including fully vitrified, porcelain, mosaics and non-moisture sensitive natural stone tiles.

ARDEX X 77 contains Microtec Technology which greatly improves the adhesion strength, plus increases the ability of the mortar to be more capable of withstanding stress and shear strain, meaning increased security in the tiling system.

ARDEX X 77 is suitable for use in both internal and external applications and is especially suited to high performance situations with heavy pedestrian traffic e.g. shopping centres. ARDEX X 77 accommodates shrinkage movement associated with early age concrete and screeds. It can be used over concrete that is at least 7 days old and screeds and renders after 16 hours. ARDEX X 77 is efflorescence free due to the addition of special additives.

ARDEX X 77 is also ideal for use in wet areas and swimming pools.

ARDEX X 77 can be modified with the addition of ARDEX E 90 to give improved deformability (S2) and water repellent qualities. ARDEX X 77 meets the Green Building Council of Australia Green Star IEQ-13 requirements for Ceramic Tile Adhesives when tested in accordance with SCAQMD Method 304-91 Determination of Volatile Organic Compounds (VOC) in Various Materials as referenced by South Coast Air Quality Management Division (SCAQMD) Rule 1168.

### FOR FIXING (TILE TYPES)

Fully vitrified and ceramic tiles, porcelain, concrete stone tiles e.g. terrazzo, natural stones (excluding moisture sensitive), glass and porcelain mosaics.

ARDEX X 77 is also suitable for fixing other building materials such as rigid insulating boards and building boards e.g. plasterboard.

### TO (SUBSTRATES)

Concrete, renders, screeds  
ARDEX liquid applied under tile waterproofing membranes  
Fibre-cement sheet, plasterboard  
Gypsum plaster  
Existing ceramic tiles  
Autoclaved Aerated Concrete (AAC)  
ARDEX DS40

### SUBSTRATE PREPARATION

In general, the surface being adhered to must be clean, firm and free of dust, dirt, oil, grease, curing compounds, release agents and other barrier materials, as well as being strong enough to support the weight of the tiles being fixed. Note: ARDEX X 77 is not suitable for fixing green marble, ARDEX recommend other systems. Contact ARDEX Technical Services for further details.

### Autoclaved Aerated Concrete (AAC)

Remove loose particles from surface and apply two coats of ARDEX Multiprime before tiling.

### Concrete

This includes precast, in-situ and wood floated concrete. Any surface laitance, concrete sealers, curing compounds, and other materials should be removed from the surface prior to tiling. The surface should be true and level and pitched to drains where required. The concrete should have adequate surface profile (e.g. broom finish) to provide a mechanical key. Smooth surfaces and/or dense concrete greater than 35MPa must be mechanically roughened prior to tiling.

### Cement Render/Screeds

New renders and screeds should be finished with a wood float to the required surface regularity. Screeds should be pitched to drains where required.

### Plasterboard/Medium Density Fibre-Cement Sheet

Tiles can be fixed directly provided these boards are firmly and rigidly fixed in accordance with manufacturer's instructions to adequately support the tile bed. Priming is recommended for fibre-cement sheets but is not usually necessary for plasterboard except when jointing compound is used.

### Compressed Fibre-Cement Sheet

Internal Applications  
These sheets must be fixed strictly in accordance with manufacturer's instructions and be deemed suitable for the application by the manufacturer.

Tiling over compressed fibre-cement sheets for external flooring applications should be carried out as per sheet manufacturer's recommendations and Australian Standard AS 3958.

### ARDEX DS40 Soundproof Underlay

ARDEX X 77 can be used for tiling to ARDEX DS40, once the matting has been fixed to the substrate with ARDEX X 56 using a minimum of a 4mm notched trowel. Please refer to ARDEX DS40 data sheet.

### Existing Ceramic Tiles

These include sound, clean, glazed and unglazed tiles. Ensure tiles are thoroughly cleaned prior to tiling. If the area to be tiled is internal and will not be in contact with water, tiles can be directly fixed

using ARDEX X 77 without mechanically grinding the glaze. The application of a skim coat which is allowed to dry prior to tiling will improve adhesion, this is essential in non permanently wet areas e.g. showers. In permanently wet areas and externally, consult ARDEX Technical Services.

For internal application of tiles to metal, glass and coats of varnish these should first be primed with ARDEX P 82 two part primer mixed 1:1 ratio.

### **MIXING**

ARDEX X 77 powder is added to clean water in a clean container whilst stirring vigorously and mixed thoroughly to give a lump free easily worked mortar. The ARDEX X 77 mortar must then be allowed to stand for at least 2 minutes prior to remixing for at least the same amount of time before use. ARDEX recommend the use of a mixing paddle for optimum results. A 15kg bag of ARDEX X 77 requires approximately 6.5 - 6.75 litres of water.

The consistency of the adhesive can be adjusted to suit site conditions and size, weight and type of tiles to be fixed. Do not apply at temperatures below 5°C. The pot life of the mixed mortar is approximately 3 hours at 23°C and 50% relative humidity.

For a special adhesive with higher deformability and improved water repellent properties use ARDEX E 90 admix, first dilute the admix with water. For 15kg of powder, mix 2.5kg of ARDEX E 90 with up to 5.5L of water.

### **FIXING TECHNIQUE**

Before fixing ensure the substrate has been prepared and the tiles are free from dust. Tiles should be fixed in accordance with the Australian Standard AS 3958. Rough and uneven surfaces can be smoothed with ARDEX X 77, the surface must be left to dry before the tile installation can take place.

Substrate surface, type and size of the tiles will determine the selection of the trowel. As a general guide use a 6mm x 6mm x 6mm notched trowel for walls and 10mm x 10mm x 10mm notched trowel for floor tiling.

The tiles must be pressed firmly into the freshly combed mortar bed to ensure good contact with the mortar. Slide the tile at right angles to the notch pattern so that the back of the tile is completely covered by the mortar. Tiles with ribbed or keyed back profiles should also be buttered so that the voids are filled.

ARDEX X 77 has an open time of 60 minutes when tested to EN 1346, and an adjustment time of 15-30 minutes. Please be aware of site conditions when considering these times and only spread

enough adhesive so that the tiles can be fixed while the mortar is still wet.

When fixing building and insulation boards, the mortar has to be applied to the back of the board. If the boards to be set do not have open pores, the surface should be roughened mechanically beforehand.

### **MOVEMENT JOINTS**

Movement joints must be in accordance with Australian Standard AS 3958. As a general guide, movement joints should be incorporated at 5 metre intervals and around the perimeter of the floor. Any structural movement joints must be carried through to the face of the tiling. These joints must be approximately 6mm wide and kept free from adhesive and grout droppings. They should be filled with a suitable flexible material such as ARDEX SE. For walls, incorporate movement joints at internal corners, fixtures interrupting the tile surface, at 3-4.5 metre intervals and storey height for external fixing.

### **GROUTING**

Grouting can proceed once the tile bed has hardened sufficiently so that tiles will not be dislodged. Typically the tile bed is hard enough after approximately 8 hours at 23°C and 50% relative humidity. Allow longer for dense tiles/substrates, humid climates and low temperatures.

### **COVERAGE**

15kg of ARDEX X 77 is sufficient for approximately 9m<sup>2</sup> on walls, using a 6 x 6 x 6mm notched trowel and 6m<sup>2</sup> on floors using a 10 x 10 x 10mm notched trowel. The coverage will vary depending on substrate condition and tile type.

### **PACKAGING**

ARDEX X 77 is packed in polylined paper sacks – net weight 15kg.

### **SHELF LIFE**

ARDEX X 77 has a shelf life of not less than 12 months when stored in the original unopened packaging, in a dry place at 23°C and 50% relative humidity.

### **Pay attention to the following:**

When setting tiles on shrinking substrates, limit the size of the area and ensure adequate movement joints are incorporated.

For setting of moisture sensitive natural stones in the interior, please refer to products in the ARDEX Natural Stone System.

Do not use for tiling over existing tiles in immersed conditions.

## SAFETY PRECAUTIONS

The presence of cement in the product gives an alkaline mortar which may cause some irritation if prolonged contact with skin takes place. 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 eye protection and keep the product out of the reach of children. Avoid generation of airborne dust during mixing. Physiologically and ecologically safe when cured. For further material safety data, consult the latest Material Safety Data Sheet.

## DISCLAIMER

The technical details, recommendations and other information contained in this data sheet are given in good faith and represent the best of our knowledge and experience at the time of printing. It is your responsibility to ensure that our products are used and handled correctly and in accordance with any applicable Australian Standard, our instructions and recommendations and only for the uses they are intended. We also reserve the right to update information without prior notice to you to reflect our ongoing research and development program. Country specific recommendations, depending on local standards, codes of practice, building regulations or industry guidelines, may effect specific installation recommendations. The supply of our products and services is also subject to certain terms, warranties and exclusions, which may have already been disclosed to you in prior dealings or are otherwise available to you on request. You should make yourself familiar with them.

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## TECHNICAL DATA

**Colour:** Off White Powder  
**Mixing Ratio:** 1 vol water:2.25 vol powder,  
approx 6.5 – 6.75 litres water  
per 15kg powder

**Application Properties** at 23°C and 50% RH  
**Open Time:** 60 minutes  
(when tested to EN 1346)

**Adjustment Time:** 15-30 minutes  
**Grouting Time:** 8 hours  
**Pot life:** 3 hours  
**Sagging:** None  
**Underfloor heating:** Yes

### Mechanical Properties (AS 4992)

**Tensile Adhesion Strength**  
**after 28 days dry:** 1.0 - 2.0 MPa  
**Tensile Adhesion Strength**  
**after water immersion:** 1.0 - 2.0 MPa  
**Warm:** 1.0 - 1.5 MPa  
**Freeze Thaw:** 1.0 - 1.5 MPa  
**Classification:** C2 FT(T)E(E) S1  
(S2 with ARDEX E 90)

### ARDEX Australia Pty Ltd

New South Wales	Ph (02) 9851 9100	Fax (02) 9674 5621
Queensland	Ph (07) 3817 6000	Fax (07) 3881 3188
Victoria/Tasmania	Ph (03) 9308 9255	Fax (03) 9308 9332
South Australia	Ph (08) 8268 2511	Fax (08) 8345 3207
Western Australia	Ph (08) 9256 8600	Fax (08) 9455 1227

### ARDEX New Zealand Ltd

Auckland	Ph (09) 2967 690	Fax (09) 2967 689
Wellington	Ph (04) 5685 949	Fax (04) 5686 376
Christchurch	Ph (03) 3843 029	Fax (03) 3849 779

**Technical Services Toll Free: 1800 224 070**

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