# ARDEX Optima

## Two Part Premium Tile Adhesive

Exceptional bonding - suitable for use over a number of difficult to adhere to surfaces

Highly water resistant - will not deteriorate in constant water immersion applications such as swimming pools

Highly flexible - S2 classification

White - suitable for use with translucent tiles

High initial grab - reduces the need for support in wall tiling applications

Suitable for wall and floor tiling

For internal and external use

CONFORMS TO ISO 13007
C2
TE
S2

# ARDEX Optima
## Two Part Premium Tile Adhesive

**DESCRIPTION**

ARDEX Optima is a premium grade two component wall and floor tile adhesive with exceptional adhesion qualities. The unique formula enables it to be used over many difficult substrates including sheet timber flooring. ARDEX Optima is suitable for all types of ceramic tiles and moisture insensitive natural stone on internal or external, wall and floor applications and is also suitable for continuous immersion applications such as swimming pools.

ARDEX Optima has a high initial grab which reduces the need for support in wall tiling applications, and is classified as a highly flexible adhesive, S2 in accordance with ISO 13007.

**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 Optima can also be used as a primer when tiling over sheet plywood and particleboard with ARDEX X 56.

**TO (SUBSTRATES)**
• Rendered brick and blockwork
• Tilt up and pre-cast concrete, mechanically prepared concrete, aerated concrete and cement renders
• Powder coated cladding, galvanised, stainless steel (degreased) and brass
• ARDEX liquid applied undertile waterproofing membranes and Butynol
• Medium density fibre-cement sheet, compressed fibre-cement sheet, plasterboard
• Roughened fibreglass
• Existing ceramic tiles (thoroughly cleaned)
• Sheet timber flooring

**SUBSTRATE PREPARATION**

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. Ensure surfaces are dry before tiling, with no residue or permanent damp. Ensure that the substrate's required cure/drying time, as given in the relevant part of AS 3958, is allowed to elapse prior to fixing the tiles. Prime porous substrates with ARDEX Multiprime.

**Concrete**

This includes precast, in-situ and wood floated concrete. As concrete exhibits drying shrinkage, allow to cure for at least 4 weeks prior to tiling. Any surface laitance, concrete sealers, curing compounds, and other materials shall be removed from the surface prior to tiling. The surface shall 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 prepared to CSP2 profile prior to tiling.

**Cement Render/Screeds**

New renders and screeds should be finished with a wood float to the required surface regularity. Allow render/screeds to cure for 7 days prior to tiling.

**Plasterboard/Medium Density Fibre-Cement Sheet**

Provided that these boards are firmly and rigidly fixed to adequately support the tile bed, tiles can be fixed directly. Please ensure the surface is completely clean. Priming with ARDEX Multiprime is recommended over fibre-cement sheets, followed by taping of sheet joints with PVC ducting tape. Priming is not usually necessary for plasterboard except when a jointing compound is used, the compound should then be primed with ARDEX Multiprime.

**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.

**Existing Ceramic Tiles**

These include sound, clean, glazed and unglazed tiles. If the area to be tiled is internal, tiles can be directly fixed using ARDEX Optima without mechanically grinding the glaze, following cleaning with sugar soap using an industrial grade scourer. Rinse and allow to dry. In permanently wet areas and externally, consult ARDEX Technical Services.

**Autoclaved Aerated Concrete (AAC)**

Remove loose particles from the surface. Apply two coats of ARDEX Multiprime and allow to dry.

**Existing Vinyl Tiles**

Ensure tiles are well bonded to the substrate. Remove wax, polish and any loose tiles. Clean with sugar soap and a scourer then rinse with warm water.

Caution: Old vinyl tiles may contain asbestos and require special handling.

**Metal Surfaces**

Remove rust and mill scale mechanically and any oil or grease with a solvent cleaner. Galvanised metal should be cleaned using high pressure water and scrubbing with a stiff broom. Prime with an appropriate metal primer that does not contain free metallic zinc or aluminium powder.

**Painted Surfaces**

Thoroughly remove previously painted surfaces mechanically, do not use paint stripper or solvents. Allow surface to dry after cleaning.

### Blockwork and Brickwork
Brickwork and blockwork must be sound, flush and level. Brickwork must be rendered, where other surfaces are not smooth and level the wall must be rendered. Ensure all voids and raked out mortar joints are filled and excess mortar pared back. Prime with ARDEX Multiprime. Do not use Optima as a render to smooth walls.

### Butynol
Butynol must be cleaned to remove any dust or contaminants using ARDEX WPM 290. If more stubborn soils remain, contact ARDEX Technical Services for advice. Allow surface to dry before the commencement of tiling. Use a 12mm notched trowel to achieve a dry bed thickness of at least 4-5mm at 60ºC and full coverage.

### Fibreglass
Gel coat must be removed to expose at least 80% of raw fibre. Remove loose dust and allow to dry prior to a skim coat being applied, allow to dry then tile. Not suitable for preformed shower bases, spas or underwater applications.

### ARDEX Liquid Applied Undertile Waterproofing Membranes
ARDEX undertile waterproofing must be applied according to instructions and thoroughly dry prior to tiling. For more information about swimming pools consult Technical Bulletin TB-198.

### MIXING
The mixing ratio of ARDEX Optima is 1 part liquid (by weight or volume) to 3 parts powder (by weight). The unit is broken into six equal components for accurate measurement. That is, 1.7 litres liquid to 5kg powder. Stir the ARDEX Optima liquid thoroughly and pour the accurate measure into a suitable clean plastic container. Add ARDEX Optima powder to the liquid whilst stirring with a mechanical paddle type mixer. Stir until both parts are homogeneously mixed. Allow the mixture to stand for 2 minutes and restir before use.

For use as a primer over sheeted plywood and particleboard floors with ARDEX X 56, mix 2 parts ARDEX Optima (powder) to 1 part of ARDEX Optima (liquid) as above. Pre-wet a 15mm nap (sponge) roller with the ARDEX Optima slurry before applying a thick coat of slurry over the timber substrate. Allow the slurry coat to dry fully before tiling over.

The pot life of the mixed mortar is approximately 45 minutes at 23°C and 50% relative humidity; do not mix more material than can be used within that time. Re-stirring the mixture can be carried out up until the pot life has expired. Do not add more liquid to reinvigorate the mix.

### FIXING TECHNIQUE
Before fixing ensure the substrate has been prepared and the tiles are free from dust. Tiles should be fixed in accordance with AS 3958. Rough and uneven surfaces can be smoothed with ARDEX Optima; 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 6 x 6 x 6mm notched trowel for walls and 10 x 10 x 10mm notched trowel for floor tiling. ARDEX Optima can be applied at a bed thickness greater than 1mm or less than 8mm.

**Note:** The total bed thickness must not exceed 8mm, which can be applied in two layers of 4mm, including the final bed of adhesive used to fix tiles.

**Note:** Apply at a minimum 2mm bed thickness over blockwork and AAC.

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 to ensure 100% coverage on the back of the tile. Tiles with ribbed or keyed back profiles should also be buttered to ensure complete coverage. Lift a tile from time to time to check that there are no voids beneath the tile. Do not spot fix. Any surplus adhesive must be removed from the surface of the tile and joints, before the adhesive sets.

ARDEX Optima has an open time of 25 minutes, and an adjustment time of approximately 20 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. All tools should be cleaned with water immediately after use.

### MOVEMENT JOINTS
Movement joints must be in accordance with AS 3958.

### GROUTING
Grouting can proceed once the tile bed has hardened sufficiently so that tiles will not be dislodged. Light foot traffic and grouting may be allowed after approximately 8 hours and full traffic after approximately 24 hours at 23ºC and 50% relative humidity. Allow longer for dense tiles/substrates, humid climates and low temperatures.

The tile joints should be grouted with the appropriate ARDEX grout. Where movement is anticipated, mix ARDEX cement based grout with ARDEX Grout Booster.

### COVERAGE
**As a tile adhesive**
Coverage for the Mini and Large kits of ARDEX Optima is approximated in the below table:

|  | 6mm trowel | 10mm trowel |
|---|---|---|
| **Mini Kit** | 3m$^2$ | 2m$^2$ |
| **Large Kit** | 16m$^2$ | 10m$^2$ |

As a general guide, use a 6 x 6 x 6mm notched trowel for walls and 10 x 10 x 10mm notched trowel for floors. The coverage will vary depending on substrate condition, tile type and application technique.

## As a primer over timber floor

1kg of mixed ARDEX Optima slurry is sufficient for approximately 1.2m² when applied on the floor with a pre-wetted 15mm nap roller.

## PACKAGING

ARDEX Optima mini kit powder is packed in poly bags – net weight 5kg and liquid is packed in plastic container – net weight 1.7kg. ARDEX Optima large kit powder is packed in poly bags – net weight 6 x 5kg and liquid is packed in a plastic pail – net weight 10kg.

## SHELF LIFE

ARDEX Optima has a shelf life of 12 months when stored in the original unopened packaging, in a dry place at 23ºC and 50% relative humidity.

## Pay attention to the following:

Excepting external grade plywood, timber is considered an unsuitable substrate for tiling in external situations due to moisture instability. Do not use ARDEX Optima over timber in external situations.

The integrity of bitumen membranes cannot be guaranteed once tiled over and "bleeding" may occur. Bitumen is not considered a suitable surface to be tiled using ARDEX Optima.

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

ARDEX Optima is not suitable for use over epoxies (except ARDEX WPM 300), polyurethanes and chlorinated rubber due to the 'anti-adhesive' nature of these products.

## SAFETY DATA

This product may cause irritation and an allergic reaction to the skin. It may cause serious eye injury and irritation to the respiratory system. In case of contact with the eyes rinse with running water until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Wear protective gloves, clothing, eye and face protection. Avoid inhaling dust/fumes/gas/mist/vapours/spray. Ensure adequate ventilation during mixing and application. Store locked up. Check with your local Council regarding the disposal of contents, dispose of packaging thoughtfully and recycle where possible. Keep out of the reach of children. Call the Poisons Information Centre on 131 126 (AUS) and 0800 764 766 (NZ) or call a doctor if you feel unwell. Additional information is in the Safety Data Sheet (SDS) at www.ardexaustralia.com

## TECHNICAL DATA

| | |
|---|---|
| **Colour:** | White Powder/ Milky White Liquid |
| **Mixing Ratio (Timber Primer):** | 1 vol liquid:2 vol powder |
| **Mixing Ratio (Tile Adhesive):** | 1 vol liquid:3 vol powder |

**Application Properties** at 23ºC and 50% RH

| | |
|---|---|
| **Open Time:** | 25 minutes |
| **Adjustment Time:** | 20 minutes |
| **Grouting Time:** | 8 hours |
| **Pot Life:** | 45 minutes |
| **Underfloor Heating:** | Yes |

**Mechanical Properties** (ISO 13007)
**Tensile Adhesion Strength after**

| | |
|---|---|
| **28 Days Dry:** | 1.0 - 2.0 MPa |
| **Water Immersion:** | 1.0 - 2.0 MPa |
| **Heat Ageing:** | 1.0 - 2.0 MPa |
| **Freeze Thaw:** | 1.0 - 2.0 MPa |
| **Classification:** | C2 T S2 |