ENVIRONMENTAL REQUIREMENTS

- Maintain environmental conditions and protect work during and after installation. Comply with the current Australian Standards and manufacturer’s printed recommendations.
- Turn off all forced ventilation and radiant heating systems, and protect the work against drafts during installation and for at least 72 hours after completion.
- When necessary, build a temporary shelter and use indirect auxiliary heaters to maintain an adequate temperature level in the working environment and surfaces.
- Exhaust temporary heaters to exterior to prevent damage to the work or injury to personnel from carbon monoxide emissions.
- Maintain substrate and ambient temperatures in tiled areas at between +10°C and +35°C during installation and for at least 7 days after completion, unless otherwise indicated in the product instructions and/or the current AS4992.1 installation standards.

JOBSITE EXAMINATION

Before work commences, examine the areas to be covered and report any deficiency or adverse condition in writing to the general contractor, owner, developer, architect or engineer. Do not proceed with the work until surfaces and conditions comply with the requirements indicated in the manufacturer’s instructions, applicable industry standards; federal, state and local regulations; and good work practices. Before commencing work, the applicator/user acknowledges that the conditions are acceptable for installation.

SURFACE PREPARATION

1. General
1.1 All supporting surfaces should be structurally sound, solid, stable, flat, plumb and true with a maximum permissible variation of 6mm in 3.05 metres from the required plane. Surfaces should be clean and free of dust, oil, grease, paint, tar, wax, curing agent, primer, sealer, form release agent and any deleterious substance or debris that may prevent, reduce or affect adhesion or performance.
1.2 Completely remove all paint, loosely bonded topping, loose particles and construction debris by mechanical means (shotblasting, scarification, sanding or grinding). When preparing surfaces containing silica sand use a dust mask or respirator.

**Warnings:**

a) Do not install over vinyl asbestos tile (VAT) or any flooring, substrate or substance that may contain asbestos. Do not install over any adhesives that may have been used to install flooring containing asbestos. Do not sand or remove any existing resilient flooring adhesive that contains asbestos fibres or crystalline silica.

b) Certain paints may contain lead. Exposure to excessive amounts of lead dust presents a health hazard. Refer to The Department of Environmental, Water, Heritage and the Arts website regarding the procurement of their free booklet “Lead Alert - The Six Step Guide to Painting Your Home” regarding appropriate methods for identifying lead-based paint and removing such paint; and any licensing, certification and training requirements for persons performing lead abatement work.

1.3 Acid etching or using harsh chemicals to prepare the surface is not recommended.

1.4 All substrates should be dry.

2. Concrete

2.1 Concrete surfaces should be dry, fully cured and free of hydrostatic pressure and/or excessive moisture. Typically, the concrete needs to be a minimum of 28 days old, to allow for proper cure to have taken place, and for the residual moisture level to drop to an acceptable level.

2.1.1 See the respective Technical Data Sheets of individual products for maximum permissible moisture-vapour emissions. Some products – such as crack-isolation, sound-reduction and waterproofing membranes and epoxies – require a compatible moisture-reduction barrier when vapour emissions exceed 1.36kg per 92.9m² per 24 hours as measured with the calcium chloride test kit, or greater than 75% relative humidity as measured with a moisture probe test.

2.1.2 The quality of concrete must permit direct tensile bond of >1.21 MPa.

2.1.3 Floors with greater than 1.36kg per 92.9m² per 24 hours, or greater than 75% relative humidity, need to be pretreated with a compatible moisture-reduction barrier.

2.2 On-grade and below-grade concrete slabs must be installed over an acceptable and effective vapour barrier per industry standards.
2.3 New concrete surfaces should be wood-floated or broom-finished.

2.4 Laitance is the fine layer of cement which floats to the surface when concrete is laid. It is found on ALL poured concrete and has a poor bond to the body of the concrete and poor strength. Laitance MUST be removed to ensure a successful installation.

2.5 For excessively dry porous concrete, keep the concrete substrate continuously moist for at least 24 hours before work begins. Remove all excess water and standing water, allowing the surface to become almost dry to provide a saturated surface-dry (SSD) condition before installing the levelling compound or setting adhesive.

2.6 For interior self-levelling, use an appropriate MAPEI self-levelling underlayment to level a properly prepared concrete floor. Always prime the concrete substrate with a recommended primer before installing an underlayment. See individual Technical Data Sheets for those products selected.

2.7 For interior concrete repair, use an appropriate MAPEI repair compound to build up, slope or level a concrete substrate when the required thickness is between 6mm and 10cm. For interior/exterior repair, use a mixture of Portland cement, sand and a MAPEI admixture to screed, build up, slope or level a concrete substrate when the required thickness is between featheredge and 10cm. Refer to respective Technical Data Sheets for details.

3. Fibre Cement Sheets
Includes Compressed Fibre-Cement Sheeting (interior/exterior floors), Fibre-Cement Sheet/Villaboard (interior walls) and Ceramic Tile Underlay (for sheeting timber floors).
In all cases, the manufacturer’s recommendations for installation must be followed - paying special attention to the treatment of joints. Most sheets have a surface layer of dust that should be removed by wiping down with a damp cloth or mop, and then allowing it to dry. Some are highly absorbent, therefore you must prime all types and grades of fibre cement sheets prior to tiling.

4. Cement Render
All cement render finishes should be at least 7 days old before being tiled over. Cement render is usually 3:1 sand:cement mix or proprietary pre mixed render, fixed over brickwork, masonry or blockwork, and can be very porous. Due to high sand content, the surface may contain a layer of loose sand particles that should be removed by brushing the render with a stiff bristle brush. The surface should then be made free of dust by wiping with a damp cloth, allowed to dry and then primed.
5. Exterior Wall Surfaces
For exterior waterproofing, apply MAPELASTIC SMART, a two-component, thin load-bearing waterproofing membrane. When surface waterproofing is not required, trowel a 3mm levelling coat of an appropriate MAPEI premium flexible adhesive system to cover the entire concrete, masonry substrate before installing tiles. Allow at least 24 hours to dry before the tile installation. Refer to the respective Technical Data Sheets for details.

6. Plasterboard Wall Surfaces (for interior dry areas only)
All dust must be removed from the surface. Prime all drywall and plaster wall surfaces with an appropriate MAPEI multipurpose acrylic latex primer such as PRIMER G (diluted 1:3 with water) and let it dry completely before applying the adhesive.

7. Gypsum Floor Surfaces
7.1 All gypsum substrates must be dry, clean, flat and properly primed with the manufacturer’s recommended primer or MAPEI’s PRIMER G (diluted 1 part PRIMER G to 3 parts water).

Note:
Unprimed gypsum substrates may leave a dusty residue on the surface, have a slightly higher porosity factor that could affect the adhesive’s open time and weaken the adhesive bond. A complete floor-installation failure may occur if the substrate is not properly primed before the flooring installation.

7.2 If there is no proof that the manufacturer’s recommended primer has been applied or if the gypsum substrate has been resurfaced, apply a dilution of 1 part PRIMER G to 3 parts water over the entire surface.

7.3 Diluted PRIMER G may be applied using either a 6mm short-nap roller or sprayed using a common garden sprayer. Ensure that the entire surface of the subfloor is covered with primer. Do not allow the primer to puddle or create a film (“skin”) on the surface.

7.4 Depending on the porosity of the substrate, a second coat of diluted PRIMER G may be necessary. Before applying a second coat, allow the primer to dry to the touch.

7.5 Allow the primer to dry completely before the installation of floor-covering adhesives.

7.6 If patching is required, first apply PRIMER G as instructed above, followed by an appropriate MAPEI two-component cement-based patching material or gypsum based patching compound or self-leveller (refer to Technical Data Sheets for details).
8. Resurfacing Old Finishes (for interior installations only)
Existing cement terrazzo; quarry tile; ceramic and porcelain tile that are mechanically profiled; paver; vinyl composition tile (VCT); and vinyl floor coverings (other than cushion vinyl) must be sound, well-bonded with a non re-emulsifiable non water-sensitive adhesive, flawless, stripped clean and free of dust, wax, grease, sealer, soap residue and all other deleterious substances that may reduce or prevent adhesion.

9. Plywood Underlayments (for interior residential floors and countertops in dry areas only)
9.1 Plywood underlayments must be a Group 1 exterior-grade plywood, CC-plugged or better.
9.2 Presswood, particleboard, chipboard, masonite, solid wood planks, pressure-treated plywood, engineered hardwood floor, asbestos board and other dimensionally unstable materials are not acceptable substrates.
9.3 Plywood surfaces should be installed smooth face-up with the face grain running perpendicular to the framing. Offset joints of subfloor and underlayment per industry standards.
9.4 Use exclusively new first-quality plywood that has not been subject to rain or water damage and has been properly acclimated per the manufacturer’s instructions.
9.5 Plywood subfloors and underlayments should consist of a minimum 2 layers of a combined total thickness of at least 3.2cm, or 3.8cm for installations of natural stone. Both panels should be fastened per the manufacturer’s recommendations over a joist span of 41cm on centre. (See product Technical Data Sheets for any alternatives). Leave a 3mm wide space between panels and a 6mm gap around drain pipes, conduits, posts and columns, and along wall and curb bases. The plywood should be screwed 15cm O.C. around the perimeter and 20cm O.C. in each direction throughout the body of the panel. Consult MAPEI’s Technical Services Department when joints are spaced greater than 41cm O.C.
9.6 Plank or tongue and groove timber floors should be covered over with at least one layer of 19mm thick exterior-grade plywood, each sheet to be fastened with screws 20cm O.C. in all directions and around the perimeter. Leave proper spacing between the plywood sheets and between all materials that they abut.
9.7 Adjacent edges of the plywood underlayment sheets should not deviate more than 1mm out of plane.
9.8 Under no circumstances should any floor material be laid over wood underlayment or subfloors that are under conditions that might cause buckling or rotting of wood. Always replace wood subfloors or underlayments that have been subjected to water damage.

9.9 All wood subfloors should be properly ventilated and acceptable to Australian Standards.

10. Painted Surfaces
The painted surface must be checked to ensure it is firmly adhered, with no signs of any flakiness. The surface must be free from any dust, dirt, grease, oil or other contaminating materials. The surface should then be cleaned with a suitable cleaner (eg. sugar soap), and allowed to dry. Then the surface should be coated using PRIMER G (diluted 1:3 with water).

11. Metal Surfaces
All metal surfaces must be free of any rust. Any rusted spots should be cleaned off using a wire brush, and the area treated with a suitable rust treatment. The area should then be primed with an etching primer. MAPEI recommends you contact your nearest Master Home Improvement store to review the requirements for your specific installation prior to starting.

Correct Adhesive Selection
To ensure a successful tiling installation the correct selection of your tile adhesive is essential. Refer to the MAPEI Adhesive and Selection Guide or contact the Mapei Technical Services Department on 1800 652 666.

This document is intended as a guide only. The relevant Australian Standards should be followed. For detailed information or assistance on application not covered by this guide, contact Mapei Technical Services Department on 1800 652 666.

WARNING - Although the technical details and recommendations contained in this reference guide correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long term practical applications: for this reason any-one who intends to use our products must ensure beforehand they are suitable for the envisaged application: in any case the user alone is fully responsible for any consequences deriving from the use of the product.

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