

Substrate Specifications

For surfaces coated with Ambitec Specialist Plaster Finishes

Introduction

The following information outlines the requirements necessary for building a quality surface flatness suitable for Ambitec polished or lightly textured plaster.

It aims to provide guidance for creating a suitable substrate to meet or exceed the long-term expectations of the Architect/Designer and client.

This specification is a guideline only and it assumes good working practice and compliance with the NZ Building Code, as well as suppliers' instructions.

Dependant upon the texture chosen, textured plaster can be forgiving. However, the smooth and highly polished plasters require a truer wall line or flatness.

Special attention should be given to avoid cracks and to external corners. In locations where corner damage may occur, pencil rounding or bull nosing the corners using suitable drywall trims is recommended.

Plasterboard substrates are an appropriate background for a textured plaster finish.

Construction

Walls should be:

Firmly constructed.

Plumb to a true horizontal line with no undulations.

Within strict tolerances: $\pm 0.5\text{mm}$ in 600mm or $\pm 1.5\text{mm}$ in 1.8 metres.

If timber framing is used, special attention should be given. In particular, the moisture content should not exceed the required regulations.

Ensure that all four edges of the board are supported and fixed according to the specified details. Plasterboard should be fixed vertically for straight walls and horizontally for curved or circular walls. To avoid bellies between supports, first fix one vertical edge, then press the plaster board flat against the next vertical support and fix it. Continue to work progressively across the wall in one direction.

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Do not fix both vertical edges of the plasterboard before fixing it to the intermediate supports. When used for curved walls with a radius of 2.5 meters or more, the plasterboard should be used in two layers fixed horizontally and supported on all four edges. The joints in the two layers should be staggered and each layer should be independently fixed. The second layer should be constructed with open joints 4-5mm apart.

Screw Heads

All screw heads should be countersunk by 1mm without breaking the surface of the board.

Cut Edges

Use only rebated plasterboard edges on external corners to avoid proud corner beads. Cut edges should be avoided. However, when unavoidable, these edges should be sandpapered to remove burrs.

To minimise cracking, wall boards should be positioned with open joints (4-5mm) to allow the joints to be completely filled.

Jointing Boards Prior to Taping

Use only approved jointing compounds to fill board joints, tapered edges and any hammer or other impact marks.

When the filler is dry, sand down the filler to remove snags and any unevenness before taping. With board square edges, filling open joints will reduce cracking risks. Fill to (4-5mm) full depth with jointing compound. A thin skim across close butting joints will definitely crack at a later date and should be avoided.

Taping and Joining

In setting the plasterboard, a gap of 4-5mm should be left between adjoining boards. This gap should be filled to full depth before taping the joints.

Only approved proprietary jointing tapes should be used in accordance with manufacturers' recommendations. Make sure the tape is firmly embedded with no air pockets. The final layer, usually two layers of jointing compound, should be feathered out 400-500mm wide either side of the tape to avoid any build up over the tape run. This dubbing out procedure, in successive thin coats, should be used on all other areas of unevenness in the background to ensure true surface flatness.

When wallboard surfaces are sealed before the jointing compound is thoroughly dry, polished and textured plasters will be disfigured; dampness underneath the sealer will cause permanent shadow lines as the wall dries out. This should be avoided in all cases.

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External/Internal Angles

Corner beads or metal, paper-faced, nail or tape on trims should be used on all external corners. Bull nosed or pencil rounded external edges are recommended in locations where corner damage may occur or if required to create a certain `look`. Internal corners should be taped in accordance with the board manufacturer's specification.

Movement

The walls, when lined, should have no detectable movement to intermittent pressures or impact (rocking).

Block or concrete

Block or concrete surfaces require one or more coats to bring the walls within true and flush specifications. Special attention is required to `key` the walls in an appropriate manner to avoid the risk of delamination.

Pre-cast concrete panels (Tilt slab panels)

Pre-cast concrete panels are suitable as substrate for all Ambitec products. Existing hoist holes or chipped edges have to be made good by others before the application of any Ambitec product

Mixed

Polished and textured plaster application on walls built using mixed substrates should be avoided. Varying expansion and contraction characteristics between different substrate types will cause cracking. **Ambitec recommends that walls built using mixed materials are dry lined.**

Previously decorated walls

Previously decorated walls on solid masonry or plasterboard, which are within acceptable tolerances, structurally sound, not delaminating and of a modern plaster type are suitable.

Wallpapered walls

All wall coverings should be removed and the exposed lining sanded to remove any snags. Wall surfaces, which can be made good with approved repair compounds, will be suitable. Never attempt to apply any plaster finish over wallpaper or lining paper, or partially removed forms of these.

Painted walls

Walls previously painted with emulsion or oil-based paints should be tested for bond strength. If not fully bonded, paint should be removed and the surface prepared with approved repair compounds. The full surface should be coated with an approved 1mm skim coat to achieve an even suction and bonding of the texture coat.

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MDF/TRIBOARD

Polished and texture plasters adhere very well to MDF/TRIBOARD, but there are strict guidelines for design and construction that must be adhered to.

Plastering over a junction between MDF/TRIBOARD panels will almost inevitably result in cracking.

Consequently we recommend the following:

Detailing MDF/TRIBOARD Panels

Flat joints will have the likelihood of a crack forming. The design must therefore avoid this by machine rebate at any junction and form a negative detail. In this way, no plaster bridges the joints in a highly visible place. Rebates can be painted or filled with mastic. The plastered crack will not show as much being hidden in the shadow of the negative detail. If band or block patterns are created over other substrates, they should all be glued over the full surface using PVA glue.

Preparation of MDF/TRIBOARD

Ensure the MDF/TRIBOARD is totally dry to avoid shrinkage or delamination problems.

Fill any holes or countersinks in panels with 2-pack polyester wood filler. Any corners to be plastered need to be blunted to within a roughly 2mm radius with sandpaper.

Apply 1 coat of oil-based primer and 1 coat of oil-based undercoat and allow a drying period of 3 days to ensure the MDF/TRIBOARD is completely sealed.

If moisture from the plaster penetrates into the MDF/TRIBOARD, it will cause it to swell. This should be avoided. From then onwards the normal plaster application process can take place starting with the application of a gritty acrylic sealer as bonding agent for the required type of finishing plaster.