

Substrate Preparation - Polished Plaster



1 General Requirements

It is essential that substrates for Polished Plaster finishes be dry, free from any movement, crack-free, dust-free, flat, smooth (equivalent to drywall level 4 or 5), and free of surface contamination and defects. A level 4 or higher finish is vital to achieve high quality results as any bumps or imperfections may show up in the finished surface. A Level 5 drywall finish provides highest quality and is especially recommended where severe lighting conditions occur, on large wall areas, and when smooth, gloss finishes are used.

As all our finishes require a wet edge to be maintained during application, installation teams cannot stop applying and then restart applying, later, in any one given area. For areas too large for several applicators to cover simultaneously, our suggestion would be to introduce a control joint, if necessary.

2 Recommended Substrates

In our experience the best substrates to work onto are taped and jointed plasterboard and freshly plastered walls that are fully dry.

Wallpaper: Never attempt to apply Polished Plaster over wallpaper or lining paper and great care should be taken on surfaces that are already decorated. All traces of wallpaper and paste residue must be removed and backgrounds filled and sanded. Repaired substrates need to be fully dry prior to application of our plaster finishes. Walls need to be straight with no bumps.

Paint: Polished Plaster can be applied to existing painted surfaces provided the paint is well adhered to the wall. For glossy paints lightly sand the surface to remove surface lustre and proceed with a recommended primer.

MDF: Polished Plaster will bond adequately to MDF however care should be taken when using it as a substrate as it will tend to crack along any joints. MDF may also swell and warp. This is a good substrate for all our plaster finishes and an easy way to create feature panels off-site. To reduce the risk of soaking in moisture and swelling we recommend it is primed on all sides with a good quality wood primer and sealer. Any corners should be blunted to within a 2mm radius. MDF should not be subjected to any moisture before or after our finishes have been applied. We do encourage that sheet sizes are considered and considered part of the design. MDF will always crack in the joint where sheets meet therefore a space between each sheet is required.

Concrete, Brick & Block -Internal: An Anti-Crack mesh plaster, or an equivalent system, should be applied to the surface and allowed to cure. Allow concrete and mortar to cure 28 days prior to finishing. Concrete should be free of form release agents that could interfere with adhesion of Marmorino. Sand glossy surfaces. Mortar joints should be flush. All finishes need to be completed to a high standard being straight and plumb with no trowel or float marks. These need to be fully dry as per the plaster manufactures instructions.

Plasterboard: The walls must be straight, plumb and solid. Drywall shall be taped and then sanded or floated. Provide Level Four finish or better. Joints between sheets need to be fully filled, taped with a good quality jointing compound and suitable jointing tape. All joints need to be flush and finely sanded. Angle beads need to be fitted to all external corners and openings. Expansion beads need to be fitted where relevant. Beads need to be feathered back from using a good quality jointing compound and sanded.

Skimmed Plasterboard: This is suitable for our finishes provided the wall has been well constructed as detailed above; plasterboard joints are filled and taped. The walls need to be well skimmed with no bumps or ridges. Walls need to be straight and plumb. Good structures that are well plastered are essential for decorative finishes.

Cement Board: Cement Board joints should be taped and sanded similar to a plasterboard finish. Screw heads should be countersunk and filled. All walls must be straight, plumb and free from movement.

Mixed: Mixed substrates should have a control joint to avoid cracks.

3 Construction

When constructing walls with the intention of polished plasters being used as a finish the following considerations are recommended. It does not claim to be the right or only way of creating a satisfactory substrate and is made without responsibility for the execution of the work. Build quality is the responsibility of the General Contractor.

When Architects are specifying Polished Plaster, special attention shall be given to their design to wall line or flatness, avoidance of cracks and external corners.

Timber Studs: Timber stud walls need to be extra well-constructed using only good quality timbers, kiln dried and well-seasoned. Timber structures need to be kept dry and consideration of moisture content within the building always considered during construction. If a building is very cold or has high moisture content the stud wall can take a long time to fully dry out. Walls that are not fully dry can shrink when drying thus resulting in movement or cracks.

Fixing:

Walls need to be constructed plum and straight. We recommend uprights are at no less than 300mm centers with plenty of horizontal supports and within strict tolerances: plus or minus 0.5mm in 600mm

Support all 4 sides of the plasterboard sheet, use solid blocking where required.

In order to minimise the formation of bellies between supports, do not fix both vertical edges before fixing to the intermediate supports. Use only rebated plasterboard edges on external corners, cut edges should be avoided as they can create proud corner beads.

We recommend that in curved areas, walls are sheeted with high quality plywood to support the plasterboard. Plasterboard must be fixed with suitable plasterboard screws at 300mm fixing centers. The aim is to achieve a very well supported solid wall with no bumps, ridges between sheets, or structure movement.

Another option is double layer construction which will ultimately be more durable and inherently more resistant to hairline cracks in the event of impact, thermal movement or slight building movement. However it is ultimately the decision of the specifier or the client to select single or double layer construction.

If plasterboard is getting stuck to a wall using dabs, we also recommend a mechanical fixing in conjunction with dabs, such as mushroom head fixings.

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Construction	Board Thickness	Length of fixing screws	Max Fixing Centre (mm)	Max Support Centre (mm)
Timber Frame Support using Drywall Screws	13mm	32	300	600
Metal Frame Supports	13mm	25	300	600
For curved walls reduce support centres to 300mm				
Screw heads should be countersunk without breaking the surface and filled.				

Stopping:

Only stopping compounds approved by the board manufacturer shall be used to fill board joints, joint depressions, screw heads and any hammer or other impact marks. We recommend for flat joints to use fibre fuse tape and paper tape on internal corners. Make sure all tapes are firmly embedded with no air pockets.

Beads: On external corners, we recommend paper-faced or metal corner beads. These should be well fitted prior to plastering and finished flush the same as for decorating with normal paints.

For corners where corner damage can be anticipated, consider inserting wood or metal end posts or cappings.

Feature Beads: Unlike normal skim coat plastering where the apex of the corner bead sits flush with the finish, Polished Plaster looks better if the finish is applied continuously around the corner. The decision to use an expansion joint shall be based on advice from a structural engineer

Sealing: Ensure the compounds are totally dry before sanding back smooth and then remove dust. Use a recommended wallboard sealer. Ensure there is no dampness prior to sealing the wall, as this will cause joint lines to show through affecting the finished polished plaster work.

Any rectification of the walls because of poor substrate build is always an additional cost.

*This information is for guidance purposes only. It emphasises the considerations required for build quality and describes good working practice. If you are wanting to apply polished plaster to doors, shop fit-out joinery or restaurant bartops etc, you will need to find an experienced joiner willing to prepare the joinery for a polished plaster application. For additional substrate advice please contact us at: contact@claddaghplastering.com