



Document: 58914.4
 Collection: 117: Advice Sheets
 Modified: 28/11/2016 16:44
 Created: 28/11/2016 16:09

Armourcoat Ltd
 Morewood Close Sevenoaks Kent TN13 2HU
 T: +44(0)1732 460 668 F: +44(0)1732 450 930
 UK Company 1997888. VAT Reg: 445788013
 www.armourcoat.com

Advice Sheet 6 Application of Armourcoat Polished Plaster to Panels, Access Panels and Doors

Armourcoat polished plaster can be applied to doors, access panels, wall and ceiling panels however there are strict guidelines for the design and construction that must be adhered to.

The face of each panel should be made from a single sheet of material with no joins, and the material used must be dimensionally stable and unaffected by changes in both humidity and temperature.

The panels should be well constructed so that they will not warp or distort over time.

Panels can be made in many ways and the material chosen for the panel construction will depend to an extent on the size, shape and complexity of the panel.

For flat panels and small to medium size access doors, MDF is normally the preferred choice.

For curved or stepped panels or those of a more complex shape, laminated GRG is preferable.

Large panels are normally constructed from plasterboard fixed to a rigid wood or metal frame. Plasterboard beads are fixed to the perimeter, all joints meshed over, and the panels skimmed with Armourcoat Anticrack.

1 MDF Panel Construction

The main advantages of MDF are as follows:

- Easily cut and machined
- Readily available
- Inexpensive
- Material of choice for all joinery companies

The main drawback of MDF are as follows:

- MDF will expand and warp if exposed to moisture or high levels of humidity.
- Even moisture resistant grades will absorb water and expand.
- MDF will gradually shrink over time if placed in a very warm dry environment, especially if used to construct items that include light fittings that emit heat.
- MDF has a typical moisture content of 7% +/- 2% at time of manufacture, however it will gradually normalize to the surrounding environment.
- MDF has a typical dimensional movement of 0.3-0.4% in length/width and 4-6% in thickness

1.1 Type of MDF

MDF can vary considerably in quality, density and hardness. Never use cheap low quality MDF.

From our experience we have found Medite 313 moisture resistant MDF (or equivalent) to be the most suitable for use with Armourcoat Plaster.

Flame retardant grades can also be used if required in the specification.

Information on Medite MDF is available from www.weyerhaeuser-europe.com

1.2 Thickness

The thicker the panel of MDF, the less it is prone to warping and distortion.

For panels of less than 500mm sq it is possible to use 12.5 or 15mm MDF, however for larger panels we would suggest a thickness of 18mm – 25mm.

For large panels the MDF can be fixed to a rigid support frame.

The frame should be glued to the rear face of the MDF with either a contact adhesive or a PU wood glue and screwed through the frame into the MDF ensuring that the screw points are at least 5mm back from the front face of the panel.

Do not screw through the front face of the MDF.

1.3 Sealing MDF panels

All MDF panels must be sealed with either an oil based primer or solvent based sealer prior to the application of Polished Plaster.

Water based products are not suitable for sealing MDF as they will immediately increase the moisture content of the MDF.

Once the surface is sealed to prevent the ingress of moisture, a further layer of primer (for Spatulata finish) or Fine Keycoat gauged with R13 resin (for Armuralia, smooth or textured finishes) must be applied to ensure complete adhesion of the polished plaster.

1.4 Edge Details

As the thickness of MDF can change quite significantly (4-6% expansion /contraction) with variations in moisture content, we recommend that the polished plaster is only applied to the face of the MDF and not to the end grain.

Polished plaster is applied in a series of consistent grain thickness coats that ensure that the final coat thickness will not vary by more than 0.2mm over the area of the panel.

The standard edge detail for MDF panels is to overlap the edge of the panel with the plaster and when the material is polished and dried, chamfer the edge with a sanding block and 150 grit sandpaper or a file/rasp.

If the edge will be visible , it can be painted in a colour to match the plaster surface.

If the panels are to be put in a situation where edge protection is necessary , there are 2 main options shown in the details below.

1.5 Fixing Detail

The most common fixing system is using a split batten system as shown in the detail drawing below.

2 GRG Gassfibre reinforced Gypsum

GRG is made from high strength gypsum plaster combined with a resin polymer/water and hand laminated into a mould using at least two layers of glass-fibre matting.

This produces a strong and lightweight panel that is dimensionally accurate and is ideal for flat or curved panels or even more complex 3-dimensional shapes.

2.1 GRG Panel Construction

Much of the time and cost associated with GRG is in creating the moulds. Where there are large numbers of repeat items of the same size and shape, the cost per item reduces significantly.

Accurate mould construction is essential and we would recommend seeking an experience GRG fabricator for this work.

All flat or curved GRG panels should have a return flange of at least 30mm to give them some structural rigidity.

Large panels should have support struts laminated into the back of the panels every 3-400mm so that the panels do not flex under the pressure of the trowel.

2.2 Thickness

GRG made from alpha gypsum and incorporating a polymer resin gives the strongest surface and has a nominal thickness of 5 – 8mm.

GRG constructed from Beta Gypsum (plaster of Paris) is not as strong and therefore should have a nominal thickness of 8-12 mm.

2.3 Sealing and Priming GRG

All GRG should be painted or sprayed with a solution of Armourcoat R13 resin combined with water at a ratio of 1 part resin : 5 parts water to stabilise the surface and reduce the suction.

The surface can then be primed with K40 primer for the application of Spatulata, or coated with a layer of Fine Keycoat gauged with R13 resin at a ratio of 1 part resin; 3 parts water.

2.4 Edge Detail

The Armourcoat polished plaster is applied directly to the surface of the GRG without the need for any corner beads.

Once the armourcoat has been applied the final edge is chamfered with a sanding block.

The plaster can be wrapped around the corners onto the return flanges if required.

2.5 Fixing Detail

For GRG castings the fixing brackets or lugs are generally laminated into the back of the GRG panel.

The means of panel fixing will depend largely upon the size and shape of the panels to be installed.

Please consult the GRG manufacturer to discuss their recommended fixing arrangements.

3 Large Panels

If panels greater than 1.2M x 2.4M are required , it is necessary to construct a wood or metal framework which is then clad usually with plasterboard.

The main requirement is that the frame is sufficiently rigid to ensure that it will not twist or flex as it is being lifted and installed.

3.1 Panel Construction

With either a wood or metal frame construction , the framework should be built with a maximum of 300mm centres and the plasterboard should be fixed with screws every 100mm along the studs.

The boards should ideally be double layered and either 9 or 12 mm Plasterboard is acceptable.

It is advisable to fix a single layer of plasterboard or 6mm MDF to the other side of the studs to increase the overall rigidity of the panel.

3.2 Edge Detail

Beads should be fixed around all perimeter edges and all joins are to be meshed with 50mm fibretape , and a skim of Anticrack applied over the entire surface flush with the beads.

For full detailing advice see SSS1 for plasterboard.

Whilst every attempt has been made to ensure the accuracy and reliability of the information contained in this document, the information should not be relied upon as a substitute for formal advice. Armourcoat Ltd, its employees and agents will not be liable for any loss or damage, of any kind, arising out of or in connection with the use of this document. Please refer to the company disclaimer for further details.