

## Substrate Specification Sheet 11

### Armourcoat QA Substrate Specification for Armourcoat Sculptural Walls

#### 1 Introduction

*This specification which emphasises the considerations required on build quality and surface flatness has not been written for Armourcoat's benefit, but seeks to provide a quality of finish which will receive the long term approval of the client and meet or exceed the expectations of the Architect and Project Managers.*

The specification is for guidance only. It describes good working practice. It does not claim to be the right or only method of wall construction to provide a substrate suitable for the installation of Armourcoat sculptural panels and is made without responsibility for the execution of the work. Build quality is the responsibility of the installer/builder.

Architects, when specifying Armourcoat Sculptural shall give special attention in their design to **wall line or flatness, avoidance of cracks and external corners.** Recommendations on these matters are contained in this specification.

The following construction relates to **non-loadbearing constructions up to 4 m in height. For additional heights in excess of 4 m contact the supplier of the wall framing to ensure it is capable of supporting the loading applied to the surface.**

#### 2 Build Quality

The walls shall be firmly constructed in metal stud partition which shall be vertically plumb and built to a true horizontal line without undulations, bumps, hollows or dives and within strict tolerances of plus or minus 1 mm (1/32") in 600 mm (24") and plus or minus 3 mm (1/8") in 1.8 metres (72"). In the construction of the stud partition walls the vertical supports shall be positioned to support all vertical board joints. Timber supports may be specified in limited circumstances but to minimise the risk of cracking shall be in seasoned timber to a moisture content not exceeding that recommended in BS5268 Part 2 1984. If in doubt of the seasoned quality of the timber, specify metal studding.

#### 3 Support framing

The metal framing must be built to withstand the total loading being applied to the surface. If in doubt please consult the framing manufacturers.

Material	Weight per m <sup>2</sup> (Weight per ft <sup>2</sup> )
12mm Plywood	7kg (1.5lbs)
12mm Plasterboard	8kg (1.8lbs)
Bondplast	2-3 kg (0.44-0.66lbs)
SCULPTURAL Panel	14 -20 kg (3-4.5lbs)
Total	31 -38 kg (6.8-8.4lbs)

The metal studs should be set at 400mm (16") centres or less to ensure a robust construction that will not deflect under load.

C shaped studs are suitable where both faces of the wall are to be lined.

'I' Studs must be used where the lining is only applied to one side of the wall.

#### 4 Movement

The walls when boarded out shall have no discernible movement when subjected to intermittent pressures (rocking) or impact.

#### 5 Board Lining

*Armourcoat SCULPTURAL™ panels are non combustible however the substrate to which the panels are to be applied must be constructed in accordance with the minimum fire ratings that are required for the project.*

In order to achieve an accurate installation that will not crack over time it is necessary to have a substrate that the panels can be screwed into, but that is inherently stable and unaffected by changes in temperature or humidity.

We recommend that the substrate is constructed from one layer of 12mm (1/2") plywood followed by a layer of 12.5mm (1/2") foil backed plasterboard/drywall. The reason for using foil backed plasterboard is to ensure that the moisture for the bonding adhesive does not permeate into the plywood and cause it to expand or move. If Foil backed plasterboard is unavailable then apply an oil based primer to the plywood at least 24 hours prior to fixing the plasterboard.

For the North American market exterior glass-mat cladding boards can be used as a replacement for the foil

backed drywall board. USG Securock panels have been used successfully in the past.

Once the plywood has been fixed back to the framing it is important to stagger the board joints when installing the layer of foil backed plasterboard.

Other suitable substrates include 2 layers of Hardie Villaboard, Blueclad board, or one layer of versapanel by Euroform followed by one layer of foil backed plasterboard.

Armourcoat SCULPTURAL™ can be installed onto a double layer of plasterboard, or a single layer of 5/8" drywall (for the North American market), but it is necessary to insert self tapping aluminum drywall plugs into the wall for each and every screw. In order to position the panel accurately it is normal to insert about 16 screw fixings per panel. This process is time consuming and as a result the installation time and cost will be increased.

## 6 Fixings

Fixings through plasterboard are to be made using standard drywall screws with heads countersunk 1mm without breaking the surface of the board.

Boards shall be fixed **vertically** for **straight** walls. Boards shall be fixed **horizontally** for **curved** and circular walls and the radius shall not be less than 2500mm (8').

All edges must be continuously supported over full length of each edge on 50 mm (2") minimum width studs.

The line of the boards shall be finished true with no discernible undulations, bumps, hollows or dives and within tolerances previously specified in 2.

Both the plywood and plasterboard shall be fixed to maintain tolerances and avoid the formation of bellies between supports. Place the first board in position and fix the first vertical edge. Press the board flat against the next vertical support and fix to it. Continue to work progressively across the wall. **DO NOT** fix both vertical edges before fixing to the intermediate support

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## Fixing Details Summary

	1 <sup>st</sup> Layer Interior	2 <sup>nd</sup> Layer Interior
<b>Board Type</b>	12.5mm (½") plywood	12.5mm (½") foil backed plasterboard
<b>Treatment</b>	None	Tape & fill board joints if required for fire regulations
<b>Self drilling drywall screws No3.5 or 4.2</b>	Drywall 25mm (1") into metal stud 38mm (1-½") into timber stud	38mm (1-½") into metal stud 50mm (2") into timber stud
<b>Width of stud to fix into</b>	50mm (2") minimum	50mm (2") minimum
<b>Maximum support spacing</b>	Flat wall 400mm (16") curved wall 300 mm (12")	Flat wall 400mm (16") curved wall 300 mm (12")
<b>Fixing Centres</b>	300mm (12") maximum	300mm (12") maximum
<b>Board joint gaps</b>	None	None

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DOCUMENT	REF
Full Set of Building Substrate Specification Sheets are available. (See web site)	
Plasterboard/Drylining Installation and Finishing	SSS1
Plasterboard/Drylining with AntiCrack Substrates	SSS2
Plaster on Brick, Block or Concrete Substrates	SSS3
Glasroc and GRG Substrates	SSS4
Previously Decorated Substrates	SSS5
Sand/Cement Substrates	SSS6
MDF Substrates	SSS7
Duturo Backgrounds and Application	SSS8
Blueclad Board Substrates	SSS9
Exterior Application	SSS10
Sculptural wall substrate Specification	SSS11

## Armourcoat Limited

Morewood Close London Road  
Sevenoaks Kent TN13 2HU United Kingdom  
Tel: +44 (0)1732 460 668 Fax +44 (0)1732 450 930  
Email: technical@armourcoat.co.uk  
web: www.armourcoat.com