

# Substrate Specification Sheet 1

## Armourcoat (ASF) QA Working Specification For Plasterboard Installation and Surface Preparation

### 1 Introduction

*This specification which, particularly, 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 way of creating a satisfactory substrate and is made without responsibility for the execution of the work. Build quality is the responsibility of the installer/buildier.

### 2 Prime Construction Considerations.

- **Applying Polished Plaster puts a lot of pressure on the substrate. Polished plaster does not shrink or crack on its own but being very hard, cracks in the substrate will penetrate through the finish.**
- **2-3 mm board joints filled with plaster are much more crack resistant than butted board joints.**
- **Substrates must be dry. Dampness will affect our finish**

### 3 Construction

The wall shall be firmly constructed in metal stud partition which shall be vertically plumb and built to a true horizontal line without undulations, within strict tolerances:

Plus or minus 1 mm in 600 mm  
Plus or minus 3 mm in 1.8 metres

Timber supports may be specified in limited circumstances but to minimise the risk of cracking, the timber shall be seasoned to a moisture content not exceeding that recommended in BS5268 Part 2 1984. If in doubt in the seasoned quality of the timber, specify metal supports.

In the construction of the stud partition walls, ensure that the vertical and cross supports are in position to support board joints on all four edges to avoid fault lines and the risk of cracking.

Sticking plasterboard onto walls with dabs is not a fixing method recommended by Armourcoat as the results will vary depending on both the skill and diligence of the applicator, and it is much less predictable than mechanical fixing to studs.

The application of polished plaster involves the material being heavily trowelled as it is finished. The forces involved are much greater than normal plastering and will only highlight any weaknesses in the substrate at the final stages. If the dabs are not well adhered to the plasterboard, the pressure applied to the surface during trowelling can split the bond and cause subsequent problems.

### 4 Recommended Fixing Details for Plasterboard Walls In One and Two Layer Work

Construction	Board Thickness (mm)	Length of Fixing Screws (mm)		Max Fixing Centre (mm)	Max Support Centre (mm)
		1st Board	2nd Board		
Timber Frame Support using Gyproc Drywall Screws	12.5	36	50	300	600
Metal Frame Supports 0.55 mm to 0.7 mm use Gyproc Drywall Screws 0.75 mm to 2.5 mm use Gyproc Jack-Point Screws	12.5	25	38	300	600
For curved or circular walls reduce support centres to 300 mm					

### 5 Movement

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

## 6 Plasterboard Finishing

The two methods of board finishing, prior to the application of Armourcoat products are taping and jointing and plastering.

### 6.1 Taping and Jointing

#### 6.1.1 Jointing Boards Prior to Taping

Only jointing compounds approved by the board manufacturers shall be used to fill board joints, joint depressions, screw heads and any hammer or other impact marks. This operation shall be done in two applications; the first being allowed to set before the second is applied. Screw spotting shall be carried out between operations in the main jointing sequence. When filler is dry, sand down filler to remove snags and any unevenness before taping. With square edge boards cracking risks will be reduced by filling open joints (2-3mm) full depth with jointing compound. \*

**NOTE \*** *A thin skim across close butting joints will simply bridge the board joint and predispose the surface to cracking.*

#### 6.1.2 Taping and Jointing

Approved jointing tapes only shall be used. Armourcoat Limited recommends gyproc joint tape applied in accordance with the manufacturer's recommendations. Ensure a clean surface free from dust or grease. Unroll tape centrally over filled joint pressing down firmly to ensure good adhesion. Apply a thin band of jointing compound 200 mm wide over and beyond each side of the tape and trowel flat. Make sure the tape is firmly embedded with no air pockets. Using a jointing sponge, moisten the sponge and feather out the margins. Rinse sponge frequently to keep clean and soft. Obvious depressions in the surface can be filled again to correct surface flatness to the specified tolerances. When the sanding and filling process is complete and when the jointing compound is set and dry, lightly sand down the surface before applying a final layer of jointing compound 400-450mm wide feathered out either side of the tape avoiding any build over the tape run. Moisten the jointing sponge and feather out the edges.

**NOTE** *This dubbing out procedure, in successive thin coats, is required to take out the bump caused by taping the board joint. All other unevenness in the background shall be taken out in a similar way or by plastering overall with Thistle Multi-finish if flatness cannot be achieved by any other means.*

*Jointing compounds, particularly along wallboard joints, shall be thoroughly dry before sealing. When wallboard surfaces are sealed before the jointing compounds are dry, polished plaster applications cannot proceed since the joint lines will grin through permanently disfiguring the finished work.*

#### 6.1.3 Internal Corners

Armourcoat Limited recommends Gyproc tape. The gap 2-3 mm between corner boards shall be filled full depth with jointing compound. A thin layer of jointing compound is then applied to both sides of the arris. The joint tape is folded and pressed into the angle using a taping knife to bed the tape. Make sure that air bubbles are eliminated. There must be sufficient jointing compound left under the tape to ensure good adhesion. A thin layer of jointing compound 100 mm wide shall then be applied to each side of the arris. When this coat has set, another coat of jointing compound 300 mm wide shall be applied to both sides of the angle and the edges feathered out with a wetted sponge float or a damp sponge.

#### 6.1.4 Obtuse Angles

Armourcoat Limited recommends Gyproc corner-tape for obtuse angles. It is often difficult to produce a sharp straight line when forming an obtuse angle. By using Gyproc corner tape (zinc coated steel strips set on fibre paper) a good line can be formed where the directional change occurs. The procedure and sequence for fixing the tape and for finishing the surface of the plasterboard after fixing the tape is the same as in 2.1.10 but in this case feather out the plaster 600 mm either side of the arris.

#### 6.1.5 External Angles

With Armourcoat Polished Plaster applications a choice of angle protection is available.

- (i) Gyproc Angle Bead
- (ii) SAS 90 Degrees High Strength Corners.

**For corners where corner damage can be anticipated, consider pencil rounding the corners without beads or insert wood or metal end posts or cappings.**

Gyproc angle bead and/or Truline angle bead affords optimum protection where a sharp external arris is specified but note comments regarding high-risk locations. Cut to the required length. Place the angle bead plumb over the external corner guarding against flaring top and bottom. Fix angle bead in approved manner. Apply a 200 mm wide 2 mm thick band of jointing compound to both sides and feather out the edges with a wetted sponge float or sponge. When set and dried, apply a second layer of jointing compound 400-450 mm wide to both sides of the angle and feather out the edges.

#### 6.1.6 Feature Beads

For drylining systems a specially designed range of aluminium feature beads are available from British Gypsum Ltd (Tel 0800 225225), or SAS – (Tel 0118 9290900) both are approved for use with Armourcoat Polished Plaster Applications.

### 6.1.7 Sealing Surface

All prepared wall surfaces shall be painted with an approved wallboard primer. Gyproc topcoat is approved by Armourcoat Limited. Before wallboard sealers are applied, the jointing compound must be thoroughly dry. Where wallboard surfaces are sealed before the jointing compounds are dry, polished plaster applications will be disfigured since dampness underneath the sealer will cause permanent shadow lines as the wall dries out. Similarly, shadow lines will arise at joint lines if surfaces are not sealed first.

## 6.2 Plastering

### 6.2.1 One Coat Plastering

An approved gypsum one coat plaster shall be used on two 12.5 mm layers of plasterboard on straight walls and shall be fixed vertically and supported on all four edges. When used for curved walls with a radius of 2.5 metres or greater, the plasterboard shall be used in two layers fixed horizontally and supported on all four edges. Each layer of board shall be independently fixed in accordance with the fixing details in table on page 1. The second layer of plasterboard shall be constructed with open joints 2-3 mm apart. The joints in the two layers shall be staggered to prevent fault lines that could induce cracking. The finished boarding shall be finished flat with no discernible undulations, bumps, hollows or dives and within tolerances of plus or minus 1mm in 600 mm and plus or minus 3mm in 1.8 metres

Plaster Grade	Recommended Thickness (mm)	Joint Reinforcement
Thistle Multi-Finish	2-3	Gyproc Joint Tape
Thistle Board Finish	2-3	Gyproc Joint Tape
Thistle Projection	5	

All plasters shall be used in accordance with the recommendations of BS5492 Code of Practice for Internal Plastering

### 6.2.2 Two Coat Plastering

Plasterboard substrates for two coat plastering comprising a basecoat and topcoat finishing plaster shall be 1 layer of 12.5 mm board supported on all four edges and fixed as detailed in table on page 1. Self-drilling and self-tapping corrosion resistant drywall or jack-point screws shall be positioned 15mm from cut edges of boards and 12 mm from bound edges

All plasters shall be used in accordance with the recommendations of BS5492 Code of Practice for Internal Plastering.

Plaster Grade	Recommended Thickness (mm)
<b>For Ultimate Substrate Hardness</b>	
Armourcoat Squash Court Basecoat	9
Armourcoat Squash Court Finish	+2
Thistle Bonding	8
Thistle Multi-Finish	+2
Joint Reinforcement – Jute Scrim in all cases	

### 6.2.3 Jointing

In setting the plasterboard a gap of 2-3 mm shall be left between adjoining boards which shall be filled full depth before taping the joints. Only approved proprietary jointing tapes shall be used in accordance with the manufacturer's recommendations.

### 6.2.4 External Angles

Corner beads for plaster shall be used to provide protection to the external corners. ***In locations where corner damage may occur, insert wood or metal end cappings.***

### 6.2.5 Internal Angles

All internal angles shall be scrimmed or taped in accordance with the board manufacturer's specification.

### 6.2.6 Priming

Priming is required only if damage has occurred or different finishes are involved.

Plaster must be allowed to dry fully and then be primed with a mist coat of diluted emulsion paint or diluted R13 resin.

**Sealing before surface is dry will cause de-lamination or disfiguration of finish.**

## 7 Additional Literature

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
Bluclad Board Substrates	SSS9
Exterior Application	SSS10

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