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SSS003: Substrate Specification Sheet 3 - Brick, Block and Concrete

Armourcoat (ASF) QA Working Specification For Plaster On Brick, Block Or Concrete Substrates

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 builder. Polished Plaster does not shrink or crack when drying. It is a hard product and any cracks forming in the substrate will penetrate through the finish. **Take particular care with lightweight blocks which will shrink and crack if blocks are wet when laid.**

2 Gypsum Plasters For Masonry and Concrete Substrates

Plastered brick, blockwork or concrete substrates provide a good structural background for Venetian Polished Plaster. The following Gypsum plasters provide suitable undercoats.

Plaster Grade	Recommended Thickness (mm)
For Ultimate Substrate Hardness:	
Armourcoat Squash Court Basecoat	9
Armourcoat Squash Court Finish	2
Thistle Hardwall	9
Thistle Multi-Finish	2
Thistle Browning	9
Thistle Multi-Finish	2
Thistle Bonding (Concrete)	9
Thistle Multi-Finish	2

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

3 Movement Joints

Movement beads as appropriate shall be installed flush with the line of the undercoat plaster, to coincide with the position of movement joints in the substrate.

4 Undercoat Plasters on Reinforced Concrete (RC) Substrates and Smooth Faced Concrete Blocks, Engineering Bricks and Lightweight Thermal Blocks

Impurities in construction materials and on substrate surfaces cause problems. Substrates must be free of curing compounds, dust, laitance, and other impurities such as oil, grease, salts, and PVA (Polyvinyl Acetate) film resulting from priming agents used over-strength on dense non-porous brick, block or concrete.

Ballast concrete backgrounds shall be given sufficient time to mature before dubbing out and plastering. Mature concrete shall be wetted approximately 10 minutes before plastering commences. Smooth Faced Concrete Blocks, Smooth Faced Engineering Bricks and Concrete Blocks made from limestone, granite and certain lightweight thermal blocks will require pre-treatment with a bonding agent. The following procedure should be adopted to prevent future delamination and to create a wall within tolerances.

5 Recommended Plastering Procedures

- Wet wall with clean water.
- Brush and stipple damp wall with a bonding coat comprising:
 1. One part OP cement
 2. Two parts washed medium (Zone 2) sand, gauged with Armourcoat R13 Resin 1:1 with clean water
- Leave a coarse surface texture, and allow to cure for 24 hours.
- Set wall plane by plumb and dot procedures or guarantee flatness to specified tolerances.
- To minimise the risk of delamination, when bonding coat is thoroughly dry, and before applying the undercoat plaster, brush bonded surface with a slurry of Armourcoat Squash Court plaster gauged with Armourcoat R13 Resin 1: 2 with clean water. This procedure starts the wet on wet application procedure.
- While slurry is still wet, working wet on wet, build to specified thickness over high spots. If the slurry coat dries out, re-coat before continuing Armourcoat Squash Court application.

6 Undercoat Plasters on Blockwork & Clay Bricks

- Aggregate concrete blocks and "common" clay brick substrates need no special bonding and the following procedure is recommended:
- Set wall plane by plumb and dot procedures or guarantee flatness to specified tolerances.
- Wet wall to reduce background suction.
- Apply plaster as a continuous operation, starting with a tight coat, well pressed into pores and fissures, leaving no voids. Working wet on wet, build to specified thickness (see table Ref 2) over high spots.
- With a Feather Edge or Darby, straighten vertically and horizontally between levelling screeds to achieve a flat, true surface. Fill in slacks and hollows while the plaster is still tacky.

7 Finishing Plaster

The appropriate Finishing Plaster shall be applied as a two-coat system, wet on wet, by firm trowelling. Ideally, the Finishing Plaster shall be applied on the same day as the Basecoat and as soon as the Basecoat has set hard. If this is not possible, the Basecoat must be re-wetted to control "suction" before the Finishing Plaster is applied.

8 Mixed Substrates

Polished Plaster applications on walls built in mixed materials shall be avoided. Varying expansion and flexion characteristics between different substrate types will cause cracking, particularly in walls with brick or block infill, between RC beams and/or columns. Armourcoat Limited recommends that walls built in mixed materials are dry lined.

9 Internal Angles

All internal angles shall be jointed with jute scrim in an approved manner.

10 External Angles

External angles shall be strengthened with stainless or galvanized steel angle beads set flush with the line of the undercoat plaster. ***In locations where corner damage may occur, pencil rounding the corners without angle beads or inserting wood or metal end posts or cappings shall be specified.***

Plastering beads are available from British Gypsum Ltd (Tel: 0800 225225), Expamet (Tel: 01429 866 688) or Cornercare (Tel: 01562 515 200). For detailing drawings please refer to the end of this document.

11 Priming

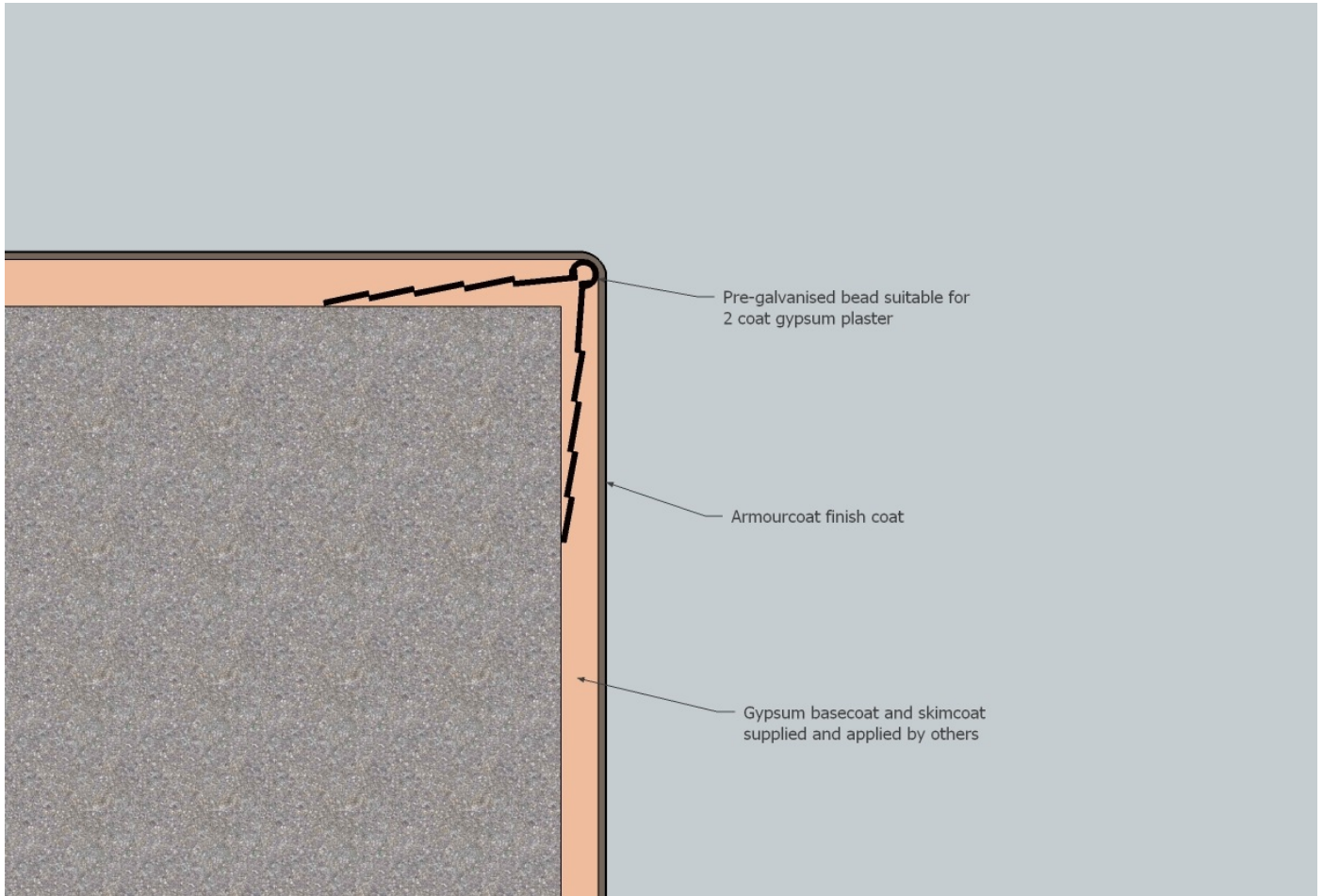
Priming is only required when different materials other than the original has been used to repair the wall. Using different materials will result in different suctions therefore a primer should be used to equalise the different suctions. However Armourcoat recommend that a primer should be applied to high suction backgrounds ie Multi-Finish.

12 Drying

Substrate must be allowed to fully dry (not just on the surface) If a substrate has been primed prior to the substrate being fully dry, water will be trapped in the substrate. Trapped moisture can cause discolouration in the Armourcoat finish.

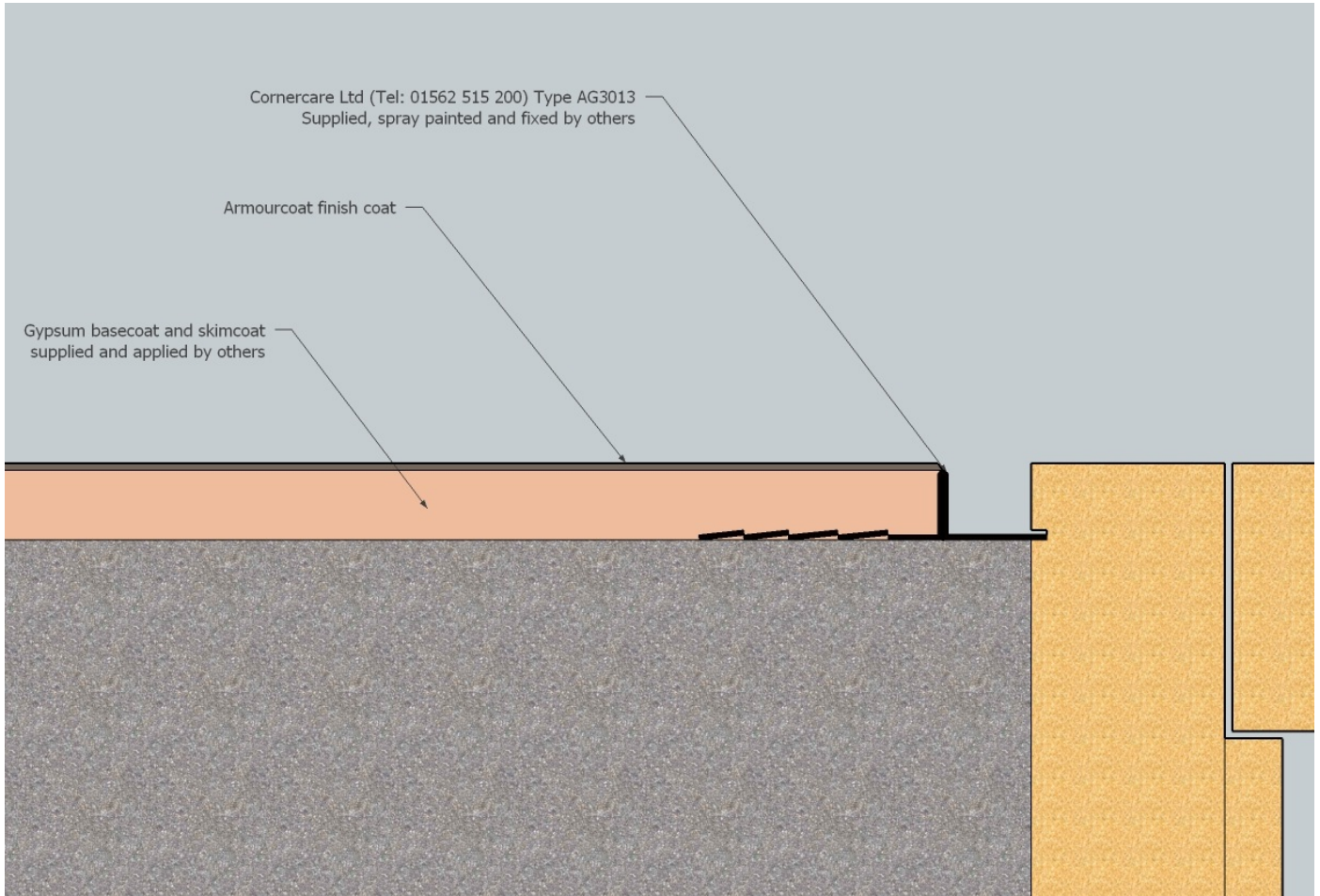
90 degree corner detail for Armourcoat finishes on brick / block / concrete substrates

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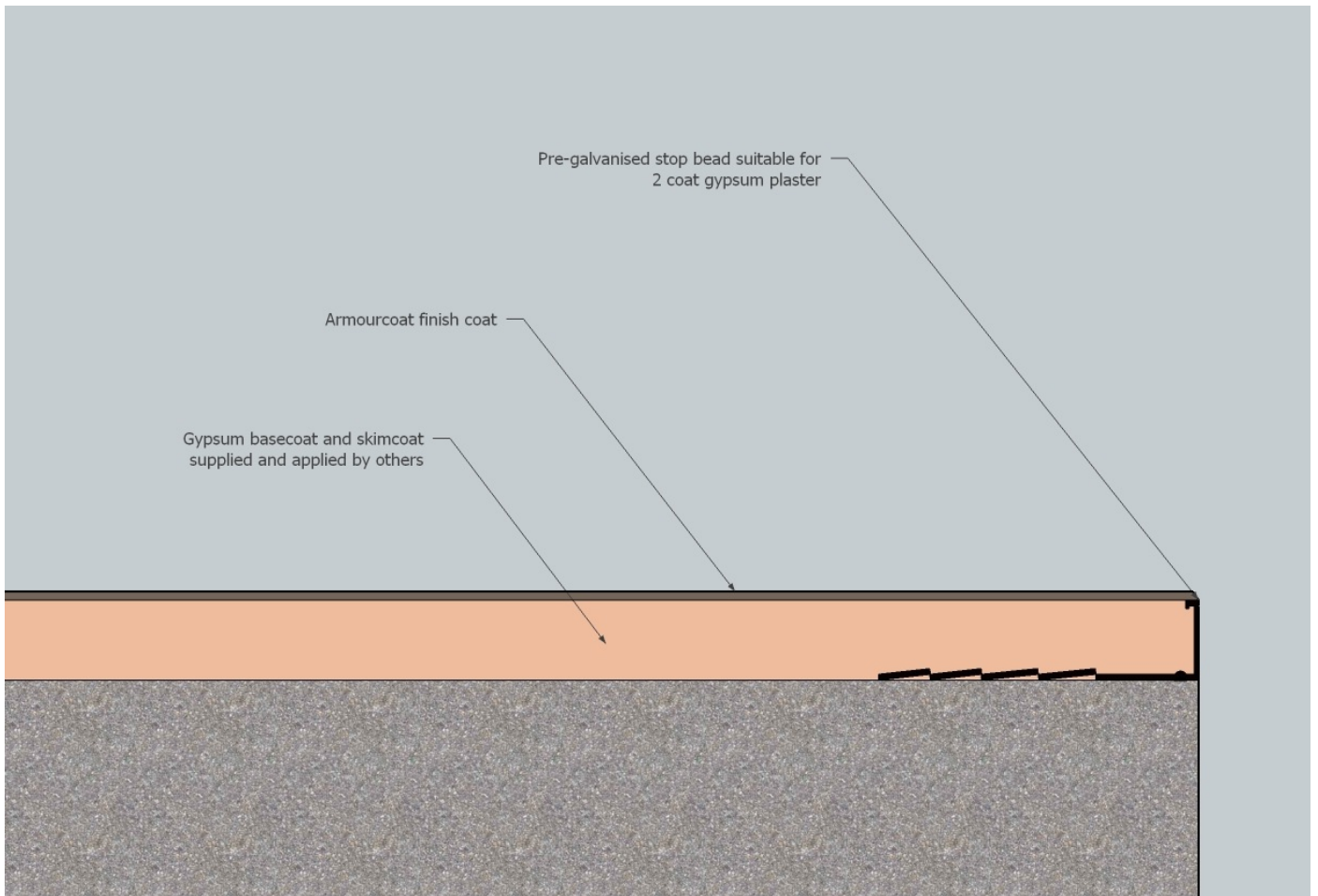
Shadow gap door junction detail for Armourcoat finishes on brick / block / concrete substrates

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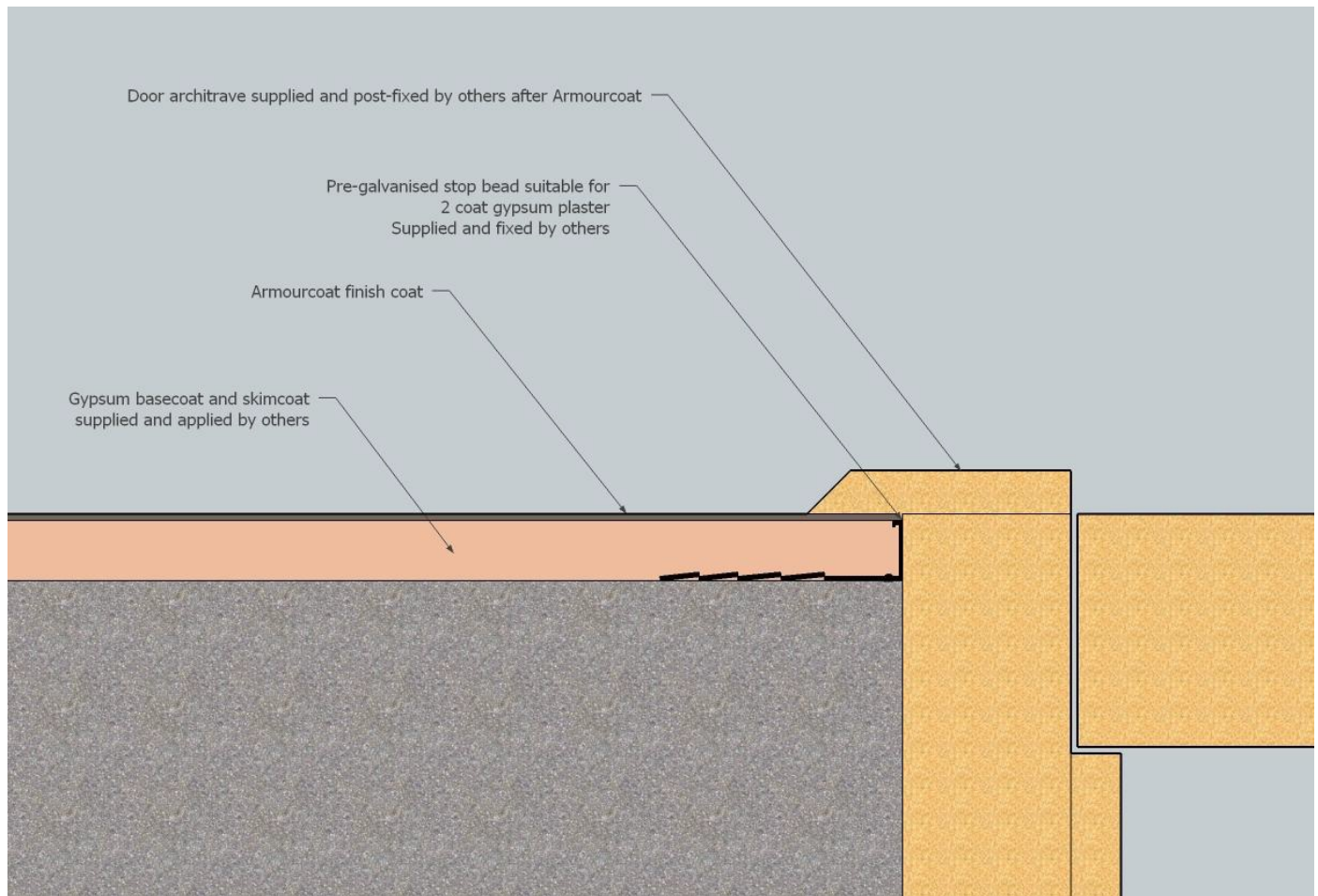
Stop bead detail for Armourcoat finishes on brick / block / concrete substrates

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Stop bead door junction detail for Armourcoat finishes on brick / block / concrete substrates

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