

CHAPTER 10: Finishes

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FUNCTIONAL REQUIREMENTS

10.1 PLASTERWORK

Workmanship

- i. All workmanship must be within defined tolerances as defined in Chapter 1 of this Manual.
- ii. All work to be carried out by a technically competent person in a workmanlike manner.

Materials

- i. All materials should be stored correctly in a manner which will not cause damage or deterioration of the product.
- ii. All materials, products and building systems shall be appropriate and suitable for their intended purpose.
- iii. The structure shall, unless specifically agreed otherwise with the warranty provider, have a life of not less than 60 years. Individual components and assemblies, not integral to the structure, may have a lesser durability but not in any circumstances less than 15 years.

Design

- i. Design and specifications shall provide a clear indication of the design intent and demonstrate a satisfactory level of performance.
- ii. Surfaces which will be subjected to water from the use of a showerhead over a bath should be tiled or have an appropriate alternative water resistant finish.
- iii. The materials and construction must meet the relevant Building Regulations and other statutory requirements, British standards and Euro-Codes.

10.1.1 Introduction

This Chapter covers all plastered finishes to walls and ceilings. Plastered finishes should be applied to a certain standard to receive a suitable decorative finish. It should be durable enough to prevent surface cracking and, if applicable as part of the whole element, meet the required levels of fire and sound insulation in accordance with current Building Regulations.

10.1.2 Substrate and background

Plasterwork should be applied to suitable substrates. The substrate may also require additional sealing or bonding agents in accordance with the requirements set out in BS 5492 Code of Practice for internal plastering.

Plaster applied to backgrounds that are susceptible to thermal movement such as lightweight concrete or aerated blockwork should be completed in accordance with the block manufacturer’s instructions.

Where the background has a mix of varying materials, e.g., blockwork and brickwork; to prevent differential movement in the plaster finish - expanded metal should be provided.

10.1.3 Plaster mixes

Plaster mix ratios should be in accordance with manufacturer’s recommendations and be appropriate for the intended use.

10.1.4 Minimum plaster thicknesses

The thickness of plaster will vary depending on the evenness of the substrate. The finished element must meet the tolerances as identified in Chapter 1 of this Manual and be of a suitable quality so that a decorative finish can be applied. Minimum thicknesses should be in accordance with Table 1.

Element	Minimum number of coats	Typical thickness
Walls - metal lath	3	13mm (nominal)
Blockwork	2	13mm (nominal)
Brickwork	2	13mm (nominal)
Walls - plasterboard	1	Skim to provide suitable and durable finish
Walls - concrete	1	Minimum thickness to provide suitable and durable finish
Ceiling - plasterboard	1	Skim to provide suitable and durable finish
Ceiling - concrete	2	10mm maximum

Table 1: Thicknesses of plaster

10.1.5 Plasterboard and dry lining

Support of plasterboard

Supports for plasterboard should be designed so that the following span limits are not exceeded:

Board thickness (mm)	Timber support centres (mm)	Intermediate noggings required	Perimeter noggings required
9.5	400	No	Yes
	450	Yes	Yes
12.5	400	No	Yes
	450	No	Yes
	600	Yes	Yes
15	600	No	No

Table 2: Plasterboard joints and fixings

Fix boards with decorative side out to receive joint treatment or a skim plaster finish. Lightly butt boards together and never force boards into position. Install fixings not closer than 13mm from cut edges and 10mm from bound edges. Position cut edges to internal angles whenever possible, removing paper burrs with fine sandpaper. Stagger horizontal and vertical board joints between layers by a minimum of 600mm. Locate boards to the centre line of framing where this supports board edges or ends. Plasterboard should be fixed to timber or metal studs using dry-wall screws. When dry lining, plasterboard can be fixed to walls by using adhesive dabs or by screwing to metal or timber battens.

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Alternatively, a proprietary wall system can be used providing it has third party certification. Gaps between boards should not exceed 3mm and consideration should be given to sealing all gaps to improve dwelling air tightness.

FUNCTIONAL REQUIREMENTS

10.2 SECOND AND THIRD FIX FINISHES

Workmanship

- i. All workmanship must be within defined tolerances as defined in Chapter 1 of this Manual.
- ii. All work to be carried out by a technically competent person in a workmanlike manner.

Materials

- i. All materials should be stored correctly in a manner which will not cause damage or deterioration of the product.
- ii. All materials, products and building systems shall be appropriate and suitable for their intended purpose.
- iii. The structure shall, unless specifically agreed otherwise with the warranty provider, have a life of not less than 60 years. Individual components and assemblies, not integral to the structure, may have a lesser durability but not in any circumstances less than 15 years.

Design

- i. Design and specifications shall provide a clear indication of the design intent and demonstrate a satisfactory level of performance.
- ii. The materials, design and construction must meet the relevant Building Regulations and other statutory requirements, British Standards and Euro-Codes.

10.2.1 Ceramic wall tiling**10.2.1.1 Introduction**

Tiles should be fit for purpose, have a suitable finish, and be of an appropriate size and thickness.

10.2.1.2 Background surfaces

Background surfaces should be adequate to support ceramic tiles and as a minimum should:

- Be even to adequately support the whole tile;
- Be strong and durable enough to support the tile;
- Have sufficient absorbency to ensure that adhesives will stick effectively or a suitable bonding agent applied;
- Be of the same construction type, where two construction types are present, e.g. blockwork and timber stud, light reinforcing should be provided over the junction between the two types.

10.2.1.3 Fixing

Depending on the background, tiles should be fixed using cement mortar or a suitable adhesive purposely designed for ceramic tiling. Tiles to shower enclosures and other areas that will be exposed to water should be fixed with waterproof adhesive.

10.2.1.4 Grouting

For shower enclosures where tiling can be saturated, grouting should be cement-based, epoxy resin, or a proprietary waterproof product. A sealing method should be specified for the joint between sanitary fittings and adjacent tiling. This is particularly important where movement can take place, e.g. where timber floors are used.

Ensure that design and specification information is issued to site supervisors and relevant specialist subcontractors and / or suppliers.

10.2.1.5 Ceramic floor tiling

Tile floorings shall provide a suitable surface and be fit for purpose.

10.2.1.6 Background surfaces

Background surfaces should be adequate to support ceramic tiles and as a minimum should be:

- Level and even enough to provide a plane surface. Falls should be specified where required;
- Resistant to ground moisture, a damp proof membrane (DPM) should be provided to a ground bearing slab;
- Adequately dry, i.e. at least six weeks drying out time for concrete base, three weeks for screed.

10.2.1.7 Tiles on wood-based substrate

The floor must be fit for purpose and should have adequate stiffness to support the tiles and adhesive.

For floors supported by joists up to 600mm centres, the floor decking should be:

- 18mm exterior grade plywood screwed to the joists at 300mm centres with all square edges supported on joists or noggins. Plywood should be laid with a 1.5mm-2mm movement gap between boards and at abutments;
- Chipboard floor decking overlaid with minimum 10mm exterior grade plywood fixed to joists at 300mm centres, or proprietary separating / de-coupling layers, tile backer boards or tile bedding reinforcement sheets used in accordance with the manufacturer's recommendations;
- Tiles should be suitable for laying over a timber base and deformable (flexible) tile adhesive, (e.g. C2S1) and grout should be used in accordance with the adhesive manufacturer's recommendations.

10.2.2 Floor finishes**Screeding**

Screeds should be fit for purpose, have a suitable finish, and be of an appropriate thickness.

Background surfaces

Background surfaces where screeds are being supported should meet the following requirements:

- **Bond**

Background surfaces for bonded screeds should provide an adequate mechanical key. If necessary, cement grouting or a bonding agent should be specified to provide adequate adhesion.

- **Moisture protection**

The floor design should ensure that moisture from the ground does not enter the dwelling.

- **Screed mix**

Cement and sand screeds should have a mix ratio of between 1:3 and 1:4.5.

Proprietary additives should have been assessed and have third party certification.

Minimum thickness of screeds are as follows

	Minimum thickness at any point (mm)
Laid monolithically with base	12
Laid and bonded to a set and hardened base	20
Laid on a separating membrane (e.g. 1000g polyethylene)	50
Laid on resilient slabs or quilts (screed reinforced with galvanised wire mesh)	65

Table 3: Screed thickness required

Where service pipes are bedded in the screed, the screed should be deep enough to provide at least 25mm of screed cover over service pipes, insulation and reinforcing.

10.2.2.1 Maximum areas of screed

Screeds should be laid room by room. Unreinforced screeds should have a maximum area of 40m². Expansion joints should be provided and consistent with joints in the floor slab below.

10.2.2.2 Curing

Screeds should be cured naturally and should not be covered for at least three weeks.

10.2.2.3 Finishing of screeds

Screed should provide an even surface as appropriate as defined in Chapter 1 of this Manual.

Concrete floor slabs may be suitably finished to serve directly as a wearing surface without the need for an additional topping, in accordance with recommendations of BS 8204. If required, surface sealers or hardeners should only be used in accordance with manufacturer’s instructions.

10.2.2.4 Insulation

Insulation below screeds should have enough compressive strength to support the screed. Damp proof membranes should be installed in the correct positions as indicated by the insulation manufacturer’s instructions. Sound insulation should be installed in accordance with manufacturer’s instructions.

10.2.2.5 Building services

Where building services pass through the screed allowance should be made for thermal movement between the screed and the service and that service pipes can resist chemical attack from the screed.

10.2.3 Painting and decorating

10.2.3.1 Timber

Painting or staining of external timber is required to provide protection and stability even if the timber is preservative treated. Timber with moisture content greater than 18% is not suitable for painting or staining.

Paint and stain systems specified should be compatible with any timber preservatives and

timber species that have been used. Where windows and doors are to be stained, proprietary sealants and beads should be used in glazing rebates accordance with manufacturer's instructions as an alternative to linseed-oil putty.

Staining

Timber should be stained in accordance with the manufacturer's recommendations.

Painting

Painting to timber should consist of at least one primer coat, one undercoat and one finish coat or alternatively in accordance with manufacturer's instructions.

10.2.3.2 Masonry and rendering

External brickwork and render should be dry before paint is applied and paint systems for external brickwork or render should be applied in accordance with the manufacturer's instructions.

10.2.3.3 Metal

Internal and external structural steel should be protected with at least two coats of zinc phosphate primer. A decorative paint finish may then be applied.

Internal and external steel which has been galvanized to a rate of at least 450g/m² is acceptable without further protection. Steel galvanized to a rate of less than 450g/m² should

be protected with at least two coats of zinc phosphate primer and a suitable decorative finish, where required.

Intumescent paint coverings must be applied in accordance with manufacturer's instructions.

10.2.3.4 Plaster and plasterboard

Plaster and plasterboard surfaces should be prepared in accordance with manufacturer's directions ready for decorating.