



# Plasterboard

## Levels of finish

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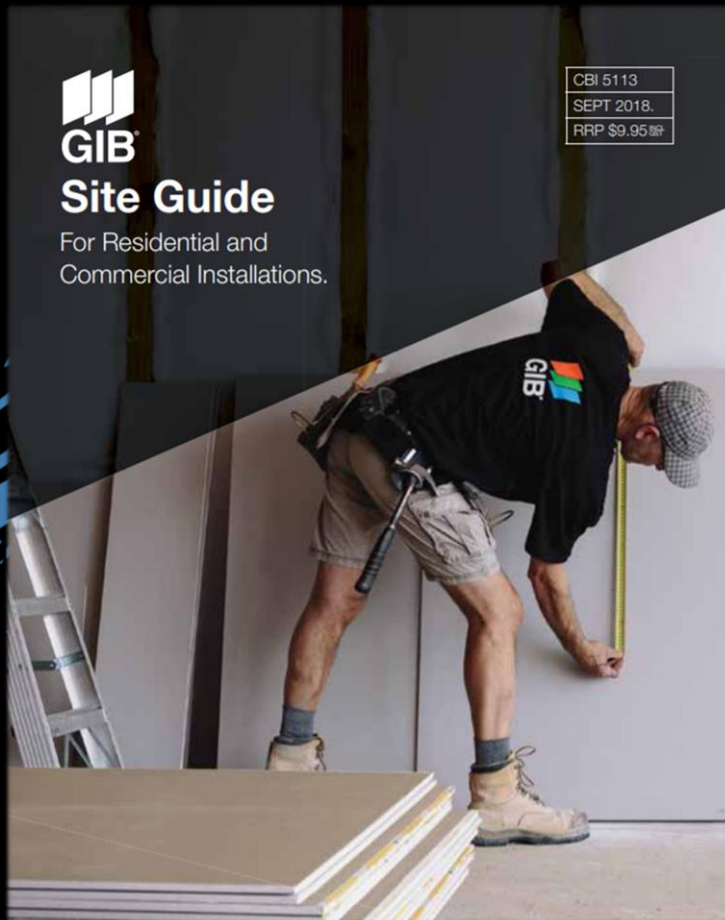


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# Information from GIB Site Guide

Note: This section is intended as a general platform guide to understanding perceived paint issues only. Please download and refer to the full GIB Site Guide for all information on Residential & Commercial installations.

<https://www.gib.co.nz/site-guide-and-install/>

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# Introduction

## Excerpt from GIB Site Guide 2018 1.4.1 Levels of Finish

- Having a clear understanding of the Levels of Finish is an important step in delivering an acceptable finished surface.
- Levels of Finish are a set of guidelines contained in AS/NZS 2589:2017 for specifying the required quality of finish prior to the application of decorative finishes such as paint

Source: Gib Site Guide 2018



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# Level of Finish relates to the plasterboard surface PRIOR to painting

## 1.4.3 Levels of Finish Guidelines

For light timber framed construction as extracted from AS/NZS 2589:2017.

Note: It is important to recognise that the Level of Finish approach was developed to optimise

installed plasterboard surfaces IN PREPARATION for decoration and NOT as a basis for establishing acceptance or rejection criteria for the final decorated surface.



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Source: Gib Site Guide 2018

# Introduction

Three Levels of Finish are defined in AS/NZS 2589:2017.

- Level 3 - must be used in areas that do not require decoration, such as above ceiling level or inside service shafts and the like.
- Level 4 - shall be the default level of finish for gypsum linings unless specified otherwise.
- Level 5 - is for use where gloss or semigloss paints are specified or where critical lighting conditions occur on flat or low sheen paints. (also for Dark colours in both non-critical & critical lighting conditions)

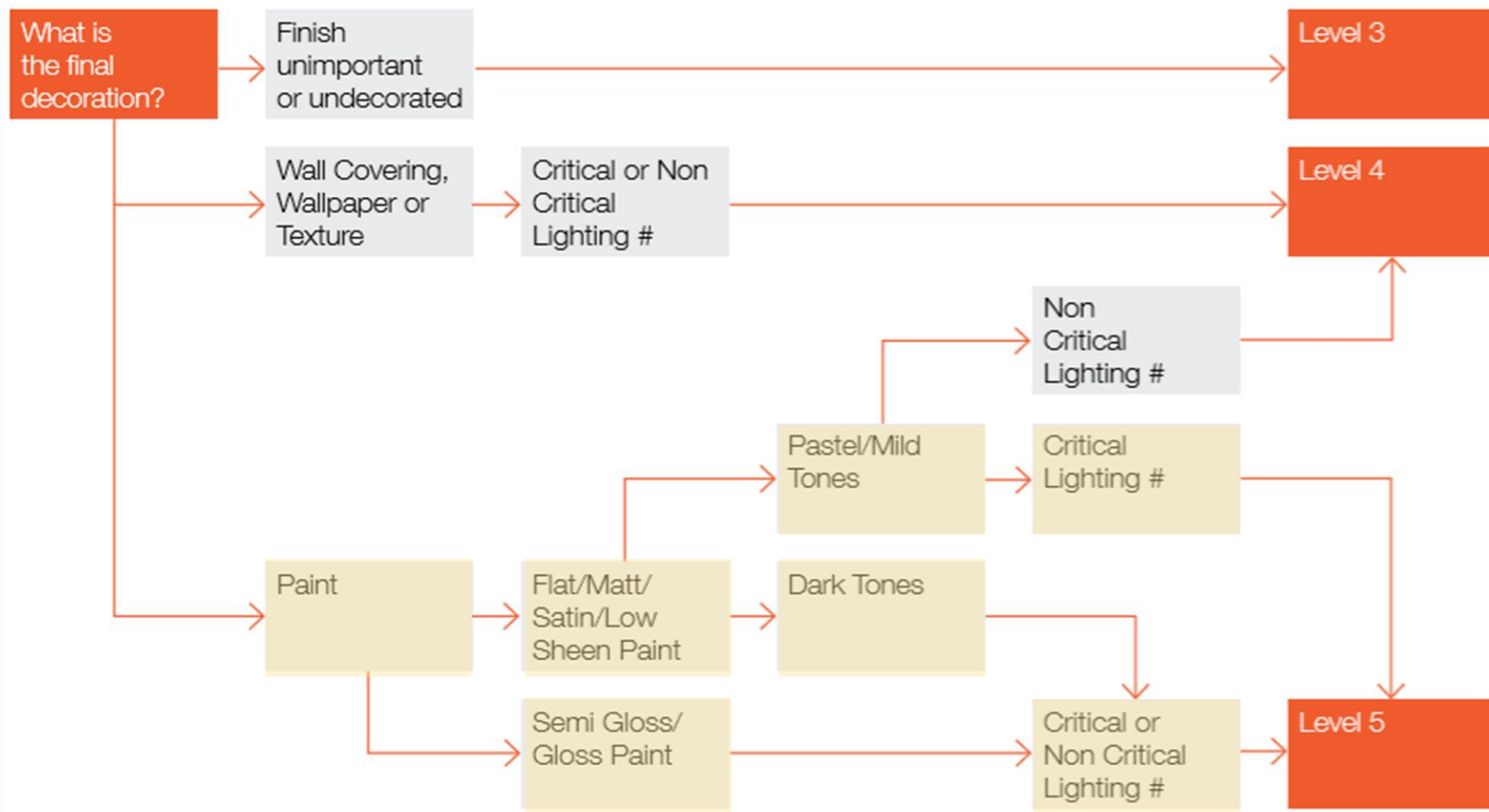


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Source: Gib Site Guide 2018

# Levels of Finish Chart is a simple reference for painting which states Level required based on sheen level, colour selection, and lighting

## 1.4.2 Levels of Finish Selection Chart



\* May not be suitable for subsequent decoration to high levels of quality in the future. Refer to Level 4 or 5 for upgrading requirements.

# Critical lighting – when the light source is nearly parallel to the surface.

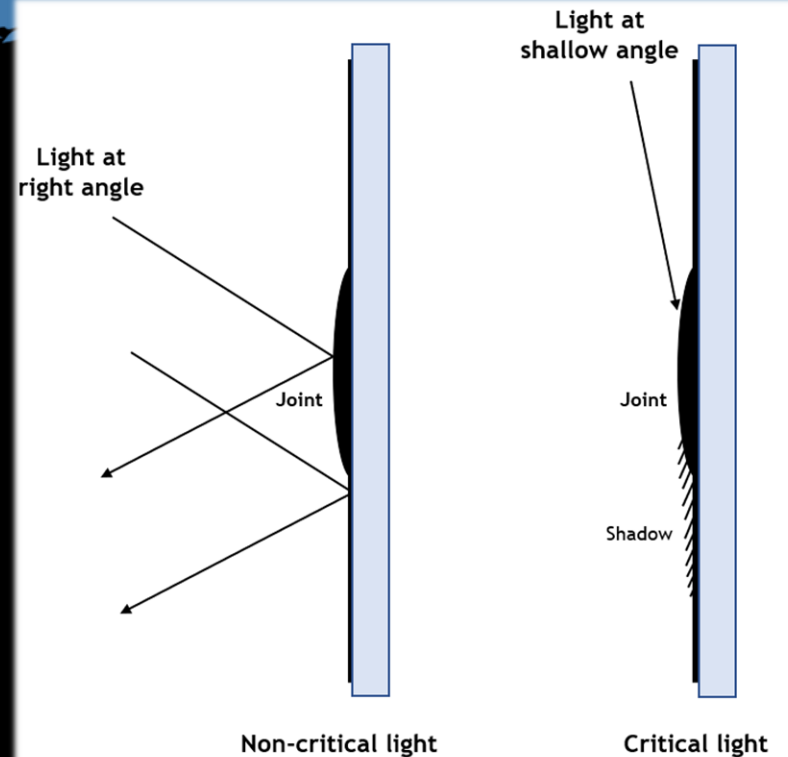
Non critical lighting – when the light striking the surface is diffused and / or at right angles

# What is Critical Light?

## 1.4.5 Critical Lighting

When light from sources such as windows, skylights and artificial wall or ceiling washer lights strike a surface at a shallow angle surface, irregularities tend to be exaggerated. This is termed “critical lighting”. When the angle of light is more or less at right angles to a surface, imperfections are less obvious – this is termed “non-critical lighting”.

Source: Gib Site Guide 2018



Source: Resene Paints Limited



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# Example of Critical Light effect- undulating surface



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# Example of Critical Light effect - Joint peaking



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# Example of Critical Light effect - Defects

Sometimes only appear at certain times of day or with artificial lights on (or off)



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# Critical Light effect - Paper vs Plaster

Paper has a rougher texture, Plaster is smooth



Indicative  
example slide  
only

No actual photo available however it's very common to see the textural difference between paper & plaster broadcasting through coatings in critical light

# Levels of Finish

- It's important to understand the differences in Framing & Installation requirements needed to achieve a Level 5 finish
- A skim coat alone does not take Level 4 to Level 5



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# Guidelines show differences in Framing & Installation tolerance requirements to achieve a Level 5 finish

Levels of Finish Guidelines			
	Level 3	Level 4	Level 5
<b>Framing Requirements</b>			
Maximum deviation from a 1800mm straight edge along or across adjacent framing members	90% of measured points must be less than 4mm 10% may be no more than 5mm		90% – less than 3mm 10% no more than 4mm
Timber moisture content at the time of lining	18% or less.		
	NZS 3602 recommends lower moisture content (8% - 18%) if heat pumps, air conditioning or central heating are to be installed		
<b>Installation Requirements</b>			
Wall Joints	Sheets must be set out to minimise joints, usually requiring wall sheets to be horizontally fixed		
Joints round openings	Vertical joints must not coincide with the vertical edge of doors or windows. If a joint needs to be made in this area it must be made above the opening, no closer than 200mm to the edge of the opening		
Control Joints	Control Joints must be positioned at maximum 12.0m centres in either direction. See p. 48		
Sheet and butt joints in ceilings	These must be made centrally between ceiling battens and back blocked. Butt joints should be staggered by at least 600mm		
Sheet end butt joints in walls	Can be made on framing or back blocked between studs		All joints must be back blocked
Tapered edge joints in ceilings	Back blocking not required but is still highly recommended	Must be back blocked in areas with 3 or more sheet edge joints on timber battens (6 if metal battens have been used)  Not required in ceiling suspension systems. See p. 47	All joints must be back blocked

Preline

Plasterboard Fixer

# Finishing requirements of Level 5 require a full skim coat

Finishing Requirements	Level 3	Level 4	Level 5
Joints	All joints must have GIB® jointing tape embedded in joint compound PLUS 1 additional coat of joint compound applied over all joints, angles, accessories and fastener heads	All joints must have GIB® jointing tape embedded in joint compound PLUS 2 additional coats of joint compound applied over all joints, angles, accessories and fastener heads.	
Additional requirements			A skim coat must be applied to remove differential surface porosity
*Tapered edge joint total width (incl. formed tapers in backblocked sheets).	170mm min.	250mm min.	
*Butt joint widths (flat joints)	340mm min.	500mm min.	
*Joint build-up	Maximum of 2mm build up across entire width as an even curve, without a distinct peak or ridge. Joint should not be hollow.		
*Joint surface (incl. internal and external corners)	No gouges, scratches, voids, pock marks or tool marks. Joint edges should be smooth and feathered without any scuffed paper. Edges should be an even straight line.		
*External angles	Must be plumb and straight. Minimum joint width 250mm. 3mm max build up at the metal angle over an even, gentle taper. Joint should not be hollow.		
*Internal angles	Must be plumb and straight. Minimum joint width 100mm. 2mm max build up at the corner, over an even, gentle taper. Joint should not be hollow.		

Stopper

This chart is intended as a guide only to critical elements relating to Levels of Finish.

Full details of the requirements can be found in AS/NZS 2589:2017

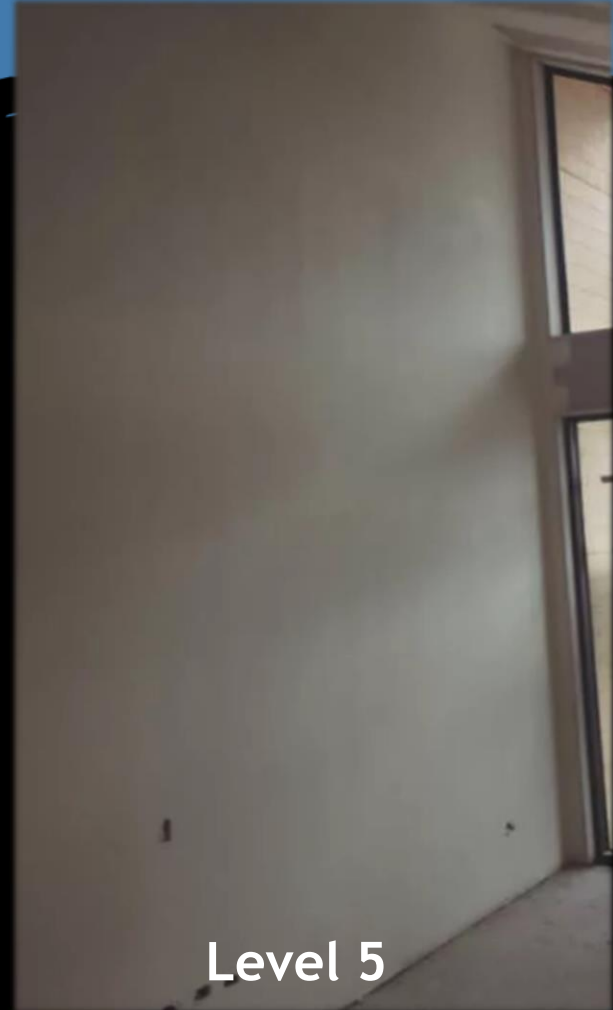
\*These minimum requirements have been extracted from AS/NZS 2589:2017



# Levels of Finish



Level 4



Level 5



## Note on Surface preparation paint products

- Excellent for significantly improving surface condition, equalizing porosity across the board and stopping compounds, and providing the option for a surfacer, sealer & ceiling finish all in one application if required.
- Ideal for productivity in Group Housing, Apartment projects etc

### Important note:

- They do not improve Level 4 (framing, fixing, stopping) to a Level 5 finish.
- The best way to consider them (for L4) is that they will give you a “Level 4 ½” finish





# Assessing the final surface should be undertaken under normal lighting conditions and at normal viewing angles

## 1.4.4 Assessment Of The Surface Condition At Handover

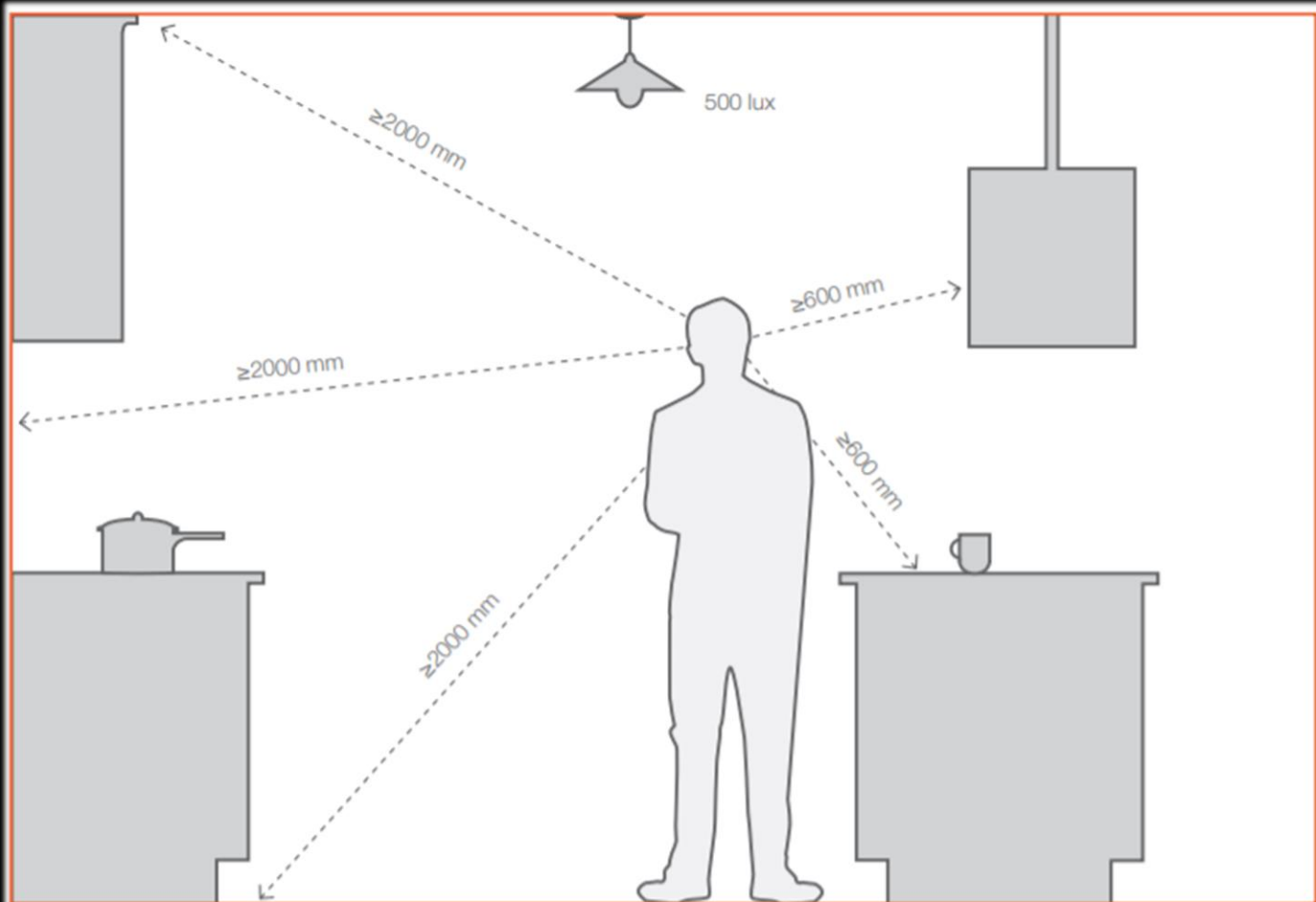
A satisfactory finish for plasterboard linings is dependent on a number of critical factors including the straightness of the underlying substrate to which they are attached. Careful management of localised build-up of joint compound on the surface of plasterboard linings during the finishing process of jointing, internal and external angles and fastener points is also required.

This clause shall be used to assess the finish of joints, angles and fastener points in plasterboard wall or ceiling linings, or both.

Visual satisfaction of the final job can be impacted by the quality of finished decoration. A sign-off form should be used at handover to assist in agreement between the parties on the quality of finish to avoid concerns being levelled at the finish of the plasterboard lining when it may relate to inadequate decoration.

**Note:** High intensity lighting is commonly used to provide light for work areas or application purposes but is not deemed suitable for performing a subjective visual inspection of interior surfaces. Inspection should be undertaken under normal lighting conditions (in the absence of critical lighting) and from normal viewing positions. See diagram below.

# Normal viewing angles when inspecting surfaces as per MBIE Guide to tolerances



Normal viewing positions vary depending on the type of surface being inspected.

Taken from MBIE Guide to tolerances, materials and workmanship in new residential construction 2015.

# Plaster compounds need time to dry before you paint

Approximate Drying Times for Air Drying and Setting Compounds

Relative Humidity	Temperature				
	10° C	16° C	21° C	27° C	32° C
98%	26 days	18 days	12 days	9 days	6 days
94%	10 days	7 days	5 days	3 days	2 days
90%	6 days	4 days	3 days	49 hrs	36 hrs
80%	3 days	2 days	38 hrs	27 hrs	19 hrs
60%	42 hrs	29 hrs	20 hrs	14 hrs	10 hrs
40%	29 hrs	20 hrs	14 hrs	10 hrs	7 hrs

Indicates common weather conditions in New Zealand.  
Based on 1.5mm–2mm thickness of wet compound.

Source: Gib Site Guide 2018

Paint applied over plaster compounds not fully dried through can lead to poor adhesion of the sealer or even complete failure of the compounds adhesion

# Paint - factors that can DISGUISE surface imperfections

## 1.4.6 Other Factors that Influence the Finished Surface

- Heavily textured or patterned finishes tend to hide imperfections
- Smooth, monolithic painted surfaces tend to highlight imperfections
- Matt finishes will aid in disguising imperfections. Conversely, high gloss paint will accentuate imperfections
- Variations in surface, such as negative details, will remove the focus from imperfections
- The method of paint application has an effect. Paint applied by roller will aid in disguising imperfections. Paint applied by spray can accentuate imperfections
- Lighter colours are less likely to show imperfections and are more effective at diffusing light and reducing shadowing, particularly in smaller rooms

- **Matt or Low Sheen paints**
- **Application by roller - imparts “orange peel” effect which diffuses light**
- **Lighter colour selections**

# Paint - factors that can ACCENTUATE surface imperfections

## 1.4.6 Other Factors that Influence the Finished Surface

- Heavily textured or patterned finishes tend to hide imperfections
- Smooth, monolithic painted surfaces tend to highlight imperfections
- Matt finishes will aid in disguising imperfections. Conversely, high gloss paint will accentuate imperfections
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- **Semi-gloss & Gloss paints**
- **Smooth surface finish ie spray application or “smooth finish” roller**
- **Darker colour selections**

# Painting guideline notes - Back Rolling information when spray application undertaken

## 6.16 PAINTING

All preparation and painting work should be undertaken in accordance with AS/NZS 2311 'Painting of Buildings' and with the relevant paint manufacturers recommendations.

### Surface Preparation Prior to Painting

Ensure all stopped surfaces are dry, sanded smooth and that any dust, oil, grease or dirt has been removed with a soft brush, damp soft cloth or a vacuum cleaner.

Ensure all windows, electrical fittings, furniture, covers, doors (or other components which are not to be painted), are masked out, covered or protected throughout the painting process.

### Guidelines

- Flat paints tend to minimise visibility of any minor surface imperfections but may not be suited to areas that need regular cleaning
- Light tone colours tend to diffuse light, which helps in disguising any minor surface imperfections
- Avoid the use of harsh lighting (e.g. 'wall washers') or situations such as windows extending to the wall or ceiling line. If these situations are unavoidable consider the use of a Level 5 pre-decorative skim coat

- As a general rule 'cut in' around edges and doors with a brush and then apply the remainder of the paint system with a 6mm -10mm nap roller sleeve
- Always maintain a 'wet edge' with the roller and lay off the final coat in one direction, preferably parallel to the dominant light source
- On faded GIB® plasterboard, use a pigmented alkyd sealer as the first coat

### IMPORTANT NOTE: BACK ROLLING

Where the paint system will be applied by airless spray equipment, it is essential to 'back roll' the final coat of paint using a roller with a fine nap. This is to create a 'soft' orange peel effect which aids in disguising plasterboard jointing, or any other minor surface imperfections.

### Painting Existing Walls

Follow the paint manufacturer's instructions regards preparation and methods of application.

### Wallcoverings

New Surfaces – Follow the application instructions of the wallcovering manufacturer.



“Back rolling” paint applied by Spray unit imparts an “orange peel” effect which aids in disguising joints and minor surface imperfections. Smooth sprayed surfaces can accentuate imperfections.



### **IMPORTANT NOTE: BACK ROLLING**

Where the paint system will be applied by airless spray equipment, it is essential to 'back roll' the final coat of paint using a roller with a fine nap. This is to create a 'soft' orange peel effect which aids in disguising plasterboard jointing, or any other minor surface imperfections.

Source: Gib Site Guide 2018

# Main issues we see that are not paint problems

- Level 4 finish in “Critical Light” environment showing joints as textural differences (ie paper vs plaster) or undulations/peaking etc - commonly in family/living rooms, hallways or high stud entry areas
- Dark colours on Level 4 finish showing jointing & imperfections
- Smooth finishes which accentuate imperfections and also cannot be touched up easily

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# Key Points

- Level of Finish needs to be considered at Design stage
- Be aware of “Critical Light” environments
- Colour choice could change your Level of Finish requirements
- Work in conjunction with the contractors to ensure everyone is working to the same requirements
- A paint finish will not improve Level 4 to Level 5

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