1.0 INTRODUCTION

The planning, building and finishing of a home or commercial building has a large number of important considerations. This guide provides you with the essential information needed when designing with, and/or installing, GIB® systems.

GIB® systems specifically designed for fire rating, noise control, bracing and wet areas are not fully documented in this guide. Please refer to the relevant sections in the specific technical publications.

1.1 GIB® SYSTEMS LITERATURE

Winstone Wallboards offers an extensive range of tested systems to ensure compliance with the requirements of the New Zealand Building Code.

Detailed information about these systems can be found in GIB® systems literature (see p. 10–11).

1.2 GIB® PRODUCTS AND SYSTEMS

GIB® systems incorporate different GIB® products, which are manufactured or supplied by Winstone Wallboards and are distributed nationwide by authorised dealers.

Winstone Wallboards has a range of GIB® branded jointing compounds, adhesives, fasteners and other drywall products. It is recommended that these GIB® branded products are used with GIB® plasterboard systems. They have been specifically developed or chosen by Winstone Wallboards for their compatibility with GIB® plasterboard systems.

Refer to the installation section for instructions on how to handle, store, install, fix and maintain GIB® products and systems. These instructions must be followed if GIB® systems are to achieve their claimed performance levels.

1.3 SUBSTITUTION

Winstone Wallboards accepts no liability if the systems are not installed in accordance with instructions contained in the GIB® technical literature. Substitution of specified or recommended components with alternative brands can compromise performance.

If alternative produts are substituted into GIB® Systems it is the responsibility of the user to ensure that the performance of the system is not compromised.

1.4 ACHIEVING THE DESIRED FINISH QUALITY

No matter how smooth wall and ceiling linings may appear, they will never be 100% physically flat. It is possible however to achieve the ‘appearance’ of blemish free flatness with the appropriate choice of a number of factors. For more detail refer to the ‘GIB® Interior Finishing’ literature. Download from gib.co.nz or call 0800 100 442 for a copy.

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
- No sheet lining material or substrate has a surface that is perfectly flat and totally free of minor imperfections
- It is important to be aware that Levels of Finish apply only to the finished plasterboard surface PRIOR to the application of any paint or decorative systems

Often there is a gap between the finish that a customer expects and the finish that can realistically be delivered. There are several factors that influence the final finished appearance. These include:

- Natural or artificial light from a critical angle
- Installation techniques and workmanship
- Stopping techniques and workmanship

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

Level 3 — Level 3 must be used in areas that do not require decoration, such as above ceiling level or inside service shafts and the like.

All joints and interior angles must have tape embedded in joint compound and one separate coat of joint compound applied over all joints and fastener heads. All joint compounds must be finished smooth. (Generally this is achieved by scraping off nibs and ridges and the like, with the edge of a trowel.)

Level 4 — Level 4 shall be the default level of finish for gypsum linings unless specified otherwise.

Flat or low sheen paints must be used for this level.

All joints and interior angles must have tape embedded in jointing compound and a minimum of two separate coats of jointing compound applied over all joints, angles, fastener heads and accessories. All jointing compound must be finished evenly and be free of tool marks and ridges in preparation for decoration.

Note:

— Under critical lighting conditions surface imperfections may still be apparent in a Level 4 finish.

Level 5 — Level 5 is for use where gloss or semi-gloss paints are specified or where critical lighting conditions occur on flat or low sheen paints. Level 5 is characterised by a parity of texture and porosity. The surface texture must be random in fashion and monolithic, concealing joints and fixing points.

All joints and interior angles must have tape embedded in joint compound plus a minimum of two separate coats of joint compound applied over all joints, angles, fastener heads and accessories. All joint compound must be finished smooth and be free of tool marks and ridges.

A paint or plaster material shall then be sprayed, rolled or trowelled over the defined area in accordance with the manufacturers recommendations.

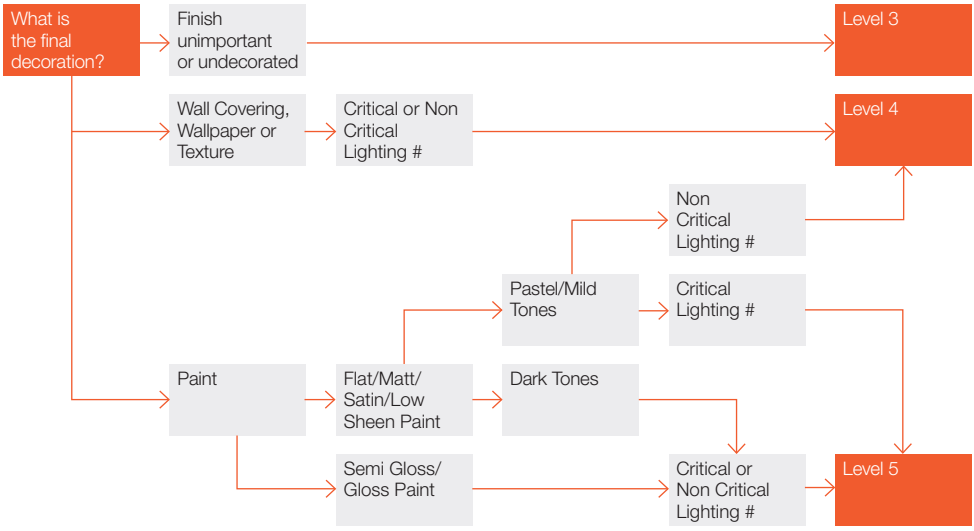
Note:

— Level 5 is difficult to achieve and always requires co-operation of the framer, plasterboard installer, plasterer and painter in establishing suitable work practices that deliver the agreed paint finish for the given project

— Some minor imperfections may still be visible in a Level 5 finish, however these will be minimised under the additional measures applied under Level 5

— The surface of the defined area may require sanding to be suitable for decoration

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

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.

	Levels of Finish Guidelines			
	Level 3	**Level 4**	**Level 5**	
Framing Requirements				
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	Preline
Timber moisture content at the time of lining	18% or less.			Preline
	NZS 3602 recommends lower moisture content (8% - 18%) if heat pumps, air conditioning or central heating are to be installed			Preline
Installation Requirements				
Wall Joints	Sheets must be set out to minimise joints, usually requiring wall sheets to be horizontally fixed			Plasterboard Fixer
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			Plasterboard Fixer
Control Joints	Control Joints must be positioned at maximum 12.0m centres in either direction. See p. 48			Plasterboard Fixer
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			Plasterboard Fixer
Sheet end butt joints in walls	Can be made on framing or back blocked between studs		All joints must be back blocked	Plasterboard Fixer
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	Plasterboard Fixer
Finishing Requirements				
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.		Stopper
Additional requirements			A skim coat must be applied to remove differential surface porosity	Stopper
*Tapered edge joint total width (incl. formed tapers in backblocked sheets).	170mm min.	250mm min.		Stopper
*Butt joint widths (flat joints)	340mm min.	500mm min.		Stopper
*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.			Stopper
*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.			Stopper
*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.			Stopper
*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

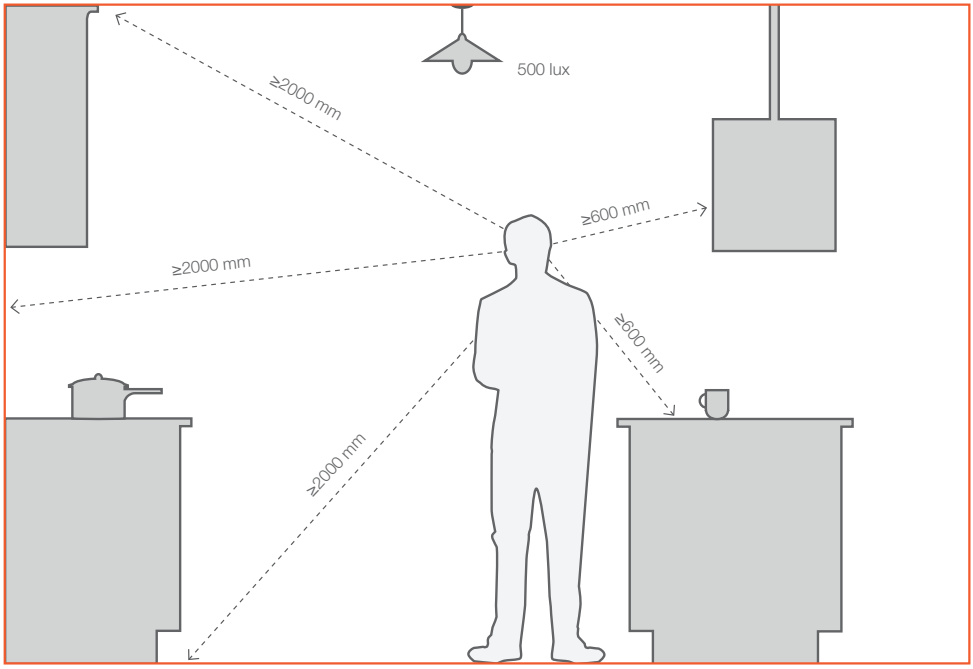
1.4.4 Assessment Of The Surface Condition At Handover

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 positions vary depending on the type of surface being inspected.

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

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".

Minimising Critical Lighting

- Horizontal Fixing – fix GIB® plasterboard sheets horizontally instead of vertically on walls. GIB® plasterboard fixed horizontally allows glancing light from adjacent windows to shine along the joint reducing the "shadowing" effect that can be more noticeable with vertical fixed. Refer to Figures 1 and 2
- Sheet layout is often determined by the system being installed. Ensure that the sheet layout complies with the installation requirements of the particular system.
- Recessed downlights and light shades – incorporating recessed downlights or light shades help to channel light downwards. Refer to Figures 3, 4 and 5
- Spot Lights – avoid spot lighting or wall mounted up-lighting or be careful about where these lights are directed and the angle at which they hit a surface particularly near jointing
- Window Positioning and Shades – avoid positioning narrow windows hard up against the end of a wall or ceiling, particularly on long walls or ceilings at the end of a room or hallway. Making a window wider and placing it away from the room corner should reduce the critical lighting effect. Avoid taking windows right up to the ceiling level. Provide sunshades over the window or recess the window to stop the sunlight reaching the wall. Refer to Figure 6

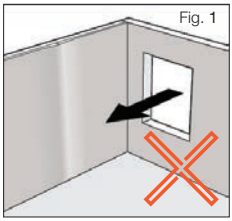


Fig. 1

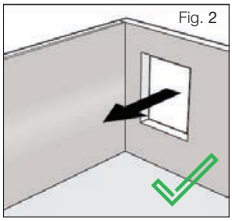


Fig. 2

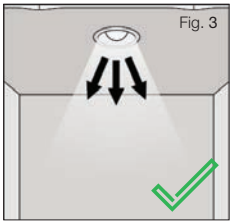


Fig. 3

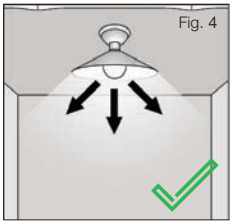


Fig. 4

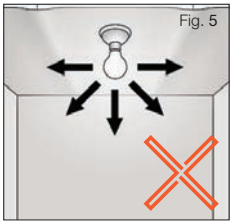


Fig. 5

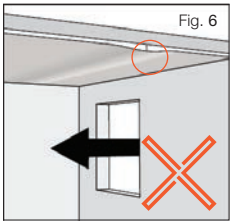


Fig. 6

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

1.5 HEALTH AND SAFETY

Under normal conditions of use, GIB® plasterboard presents no known health hazard.

Construction sites can contain multiple hazards. It is important that appropriate health and safety requirements are strictly followed in such environments.

For further information on safety, handling and installing GIB® products and systems refer to the installation section.

1.6 COMPLIANCE

Under normal conditions of dry internal use GIB® plasterboard systems have a service life complying with the durability requirements of NZBC B2 Durability.

The systems and product testing referred to in this guide have been carried out and/or appraised by BRANZ and various other independent testing organisations.

1.7 LIMITATIONS

GIB® plasterboard (paper faced):

- Must not be installed externally or exposed to weather elements for long periods of time without being covered or protected *(refer to exceptions below)
- Must not be handled or installed while in a very damp or wet state
- Must not be placed or installed directly into surface water
- Must not be exposed to chlorine rich environments or areas where relative humidity is greater than 90% RH for long periods of time like; group showers, steam rooms or indoor heated swimming pools
- Must not be exposed to temperatures greater than 52°C for long periods of time as this may cause calcination of the core. Carefully consider the heat output from fittings like: halogen lights, cooking elements, fire places and flues etc. Consult the fitting manufacturer for specifications
- Must not support ceiling loads that exceed 3kg/m^2 including; light fittings, ceiling fixtures and insulation etc
- Can develop mould growth if left wet or damp for extended periods of time and exposed to airborne or surface contaminants. The plasterboard must be replaced if it has not been able to dry within approx. 48 hour period after becoming wet, or the water source has been contaminated

Electric Radiant Ceiling Heating (ERCH)

- ERCH systems may give rise to abnormal localised or overall temperature conditions in ceiling spaces which could affect the timber framing and GIB® plasterboard linings
- Excessive thermal or hygrometric movement induced by these systems may result in some, or combinations, of the following defects; deterioration of the gypsum in the GIB® plasterboard core (possibly affecting structural and fire resistant rating performance), fastener ‘popping’, joint peaking or joint cracking
- Prior to construction, we suggest you contact your designer to fully consider these factors in order to optimise surface finish quality
- Winstone Wallboards will not accept liability for surface finish quality problems where ERCH systems are installed in conjunction with any GIB® lining system

*Exceptions - the following range of plasterboard can be installed externally and exposed for the maximum times shown. The plasterboard must be installed in a dry state:

- 25mm GIB Barrierline® 12 weeks maximum
- 16mm GIB Fyreline® (when used in the GIB Barrierline® system) 4 weeks maximum

1.8 COMPLAINTS PROCEDURE

Should a problem be encountered with any GIB® product during installation or delivery, immediately contact the GIB® Helpline on 0800 100 442. Do not continue to use the product that is not performing to specification or expectation. Keep samples of the product in question and where possible, document batch numbers and/or manufacturing dates.