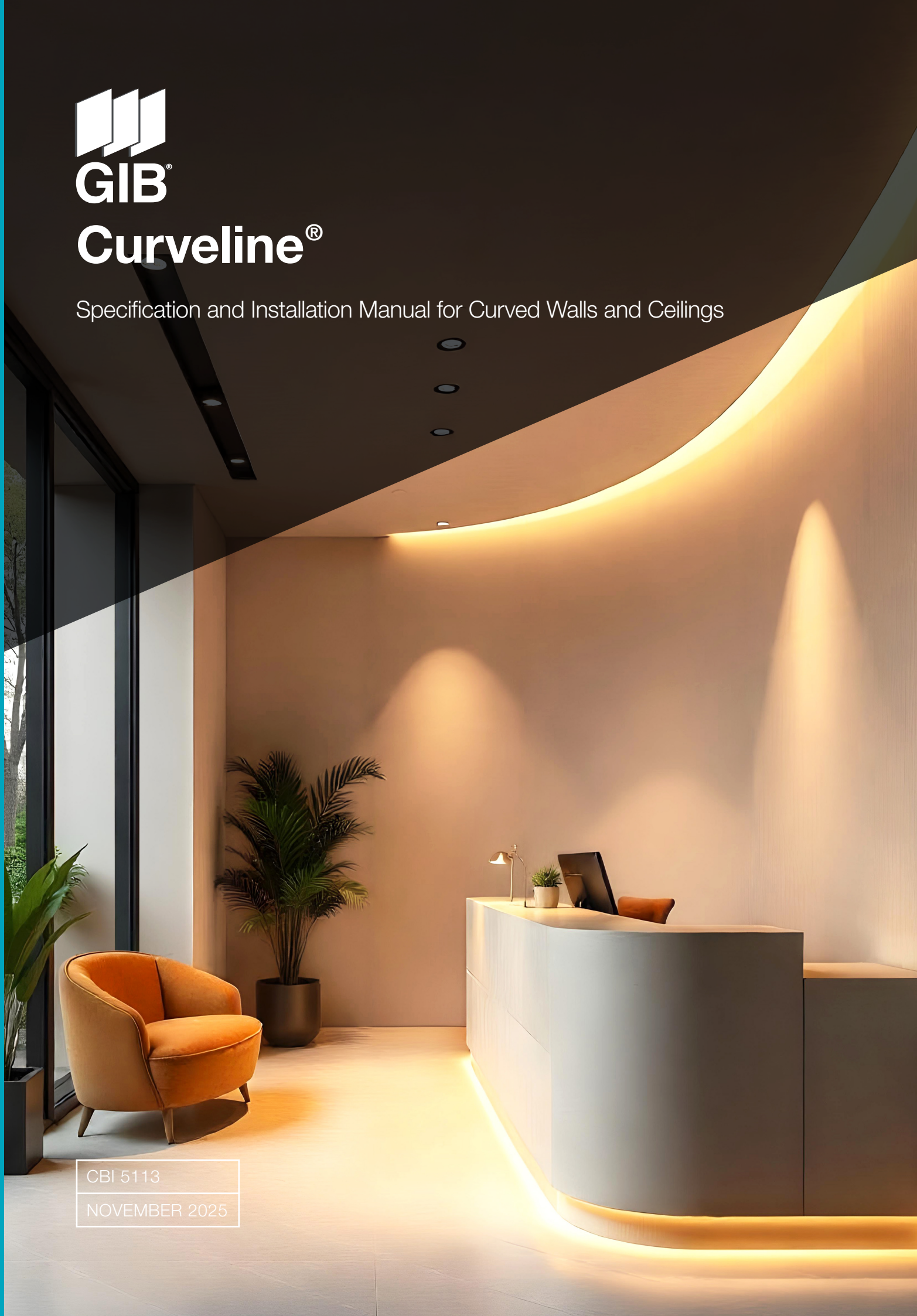
GIB®

Curveline®

Specification and Installation Manual for Curved Walls and Ceilings



CBI 5113

NOVEMBER 2025

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Curved walls and ceilings can add a unique and modern architectural element to any interior space.

This guide outlines best practice for the formation of curved walls using GIB® plasterboard and GIB Curveline®.

CONTENTS

INSTALLATION

10mm and 13mm GIB® plasterboard can be curved depending on the type and thickness of plasterboard used. Sheets must be fixed horizontally to wall framing and should not be curved across the width of the sheet.

6.5mm GIB Curveline® is a speciality board designed to form tight curves and may be fixed either horizontally or vertically.

GIB Curveline® sheets are supplied in pairs which are end taped together to reduce potential damage.

SHEET PRE-WETTING PROCESS

- Pre-wetting of the plasterboard surface will assist with forming tighter radius curves.
- For 10mm/13mm GIB® plasterboard lightly wet both sides of the sheet using a paint roller or sponge. Allow 5 minutes before plasterboard installation.
- When forming convex curves with GIB Curveline®, wet the sheet rear only, do not wet both sheet sides.
- When forming concave curves with GIB Curveline®, do not wet the sheet.

Table 1: Curved Wall Minimum Sheet Bending Radii and Maximum Stud Spacings

Lining Thickness (mm)	Curve Type	Horizontally Installed Sheets		Vertically Installed Sheets	
		Minimum Radius (mm)	Maximum Stud Spacing (mm)	Minimum Radius (mm)	Maximum Stud Spacing (mm)
6.5mm GIB Curveline®	Concave	650	200	450 (dry only)	150
	Convex	450	200	250 (wet[2])	125
10mm GIB® plasterboard/ 10mm GIB Weatherline®	Concave/ Convex	1000 (wet)[1] 1200 (dry)	200	N.A.	N.A.
13mm GIB® plasterboard/ 13mm GIB Weatherline®	Concave/ Convex	1200 (wet)[1] 1500 (dry)	300	N.A.	N.A.

Note: 13mm GIB Toughline® and GIB Toughline® Aqua are not to be curved.

1. GIB Weatherline® and GIB Aqualine® can only be curved dry, pre-wetting of sheets is not recommended.

2. The minimum radius for Convex Bulkhead is 450mm (dry installation only)

'Wet' refers to the process of applying water to the GIB® plasterboard sheet to allow formation of tighter radii compared to sheets installed 'dry'. When a Level 4 or better surface finish is desired, skim coat radii tighter than 450mm.

Table 2: GIB Curveline® Range - Linings

Product	SKU Number	Sheet Length (mm)	Sheet Width (mm)	Thickness (mm)	Edge	Max kg/m²
GIB Curveline®	16067	3600	1200	6.5	TE/TE	5.7

Table 3: GIB Curveline® Range - Accessories

Product	SKU Number	Size (mm)	Framing
Rondo® Flexible Track	16074	3000 x 64	Use with 62mm steel
	16075	3000 x 92	Use with 90mm timber/ steel

Figure 1: Concave Curve Example

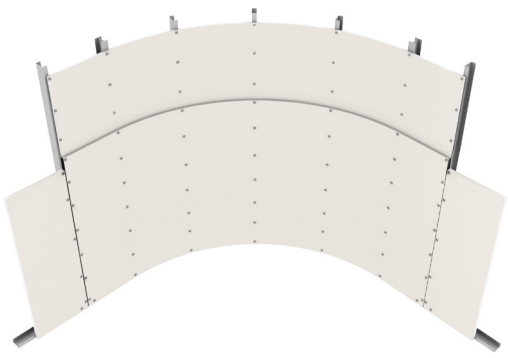
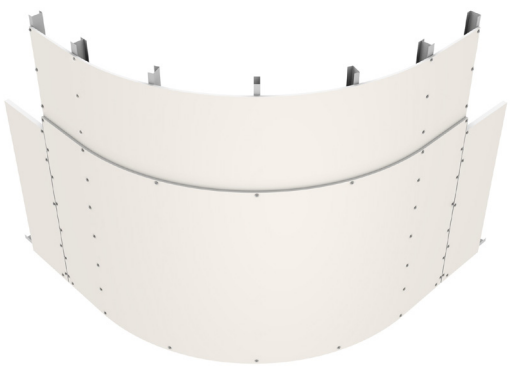


Figure 2: Convex Curve Example



CURVED WALLS USING RONDO® FLEXIBLE TRACK

- Rondo® Flexible Track can make accurate formation of curved walls quicker and easier.
- Rondo® Flexible Track run along the top and bottom of the curved wall area. Studs are then positioned and fixed into the Rondo® Flexible Track through the pre-punched holes and fastened off using minimum 13mm x 7g pancake drill tip screws.
- To make it easier to insert and position the studs into the Rondo® Flexible Track, cut studs 10mm shorter than the required stud height.
- When fastening off plasterboard sheets place fasteners into studs and where possible avoid fastener placement into the Rondo® Flexible Tracks.
- Rondo® Flexible Track are available from Winstone Wallboards in 0.55 BMT for general installation applications with track depths of 64mm for steel stud and 92mm for timber or steel stud.
- Refer to Table 1 for GIB® plasterboard radii and maximum stud spacing.

Figure 3: Rondo® Flexible Track Layout

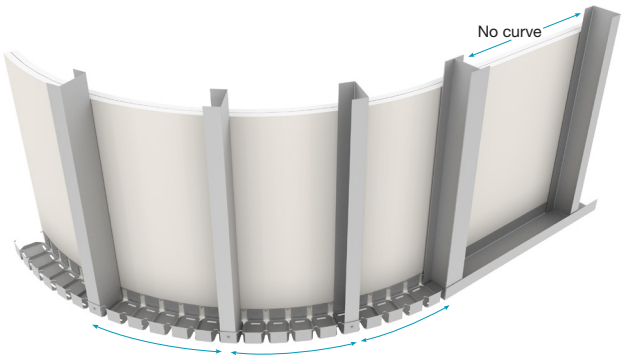


Table 4: Rondo® Flexible Track Minimum Curving Radius

Track Depth	Minimum Radius	Framing Type
64mm	250mm	Steel
92mm	285mm	Timber/Steel

GIB® PLASTERBOARD LINING INSTALLATION

- Prepare the curved framing in accordance with the minimum radii and maximum framing centres outlined in Table 1.
- For tight radius curves, consider installing double studs at each end of the curve to prevent frame deflection.
- When installing sheets horizontally, GIB® plasterboard can be curved with the taper edges bent around the curve.
- All sheet end butt joints must fall on framing members.
- Extend sheets beyond the end of the curved section by a minimum of 300mm.
- Sheets should be touch fitted.

6.5MM GIB CURVELINE®, 10MM/13MM GIB® PLASTERBOARD FASTENER REQUIREMENTS

- For timber framing use minimum 32mm x 6g GIB® Grabber® high thread screws*.
- For steel framing use minimum 25mm x 6g GIB® Grabber® fine thread self-tapping screws*.
- Fastener centres at 200mm maximum along the studs.
- Fasteners at wall corners to be placed 50mm maximum from the sheet corner in each direction.
- Ensure fasteners are not over driven and that the head of the screw finishes flush with the sheet face. Where screws have been over driven (and the face paper has been damaged and the core exposed), install a new screw fixing 25mm away and adjacent to the over driven fixing.

** Some GIB® performance systems may require different fastener lengths and types. Refer to the applicable GIB® system literature for more information.*

FIXING CONCAVE CURVES WITH GIB CURVELINE®

- GIB Curveline® sheets should begin and end a minimum of one stud from the curved wall section.
- Fasten one end of the GIB Curveline® sheet at 200mm maximum centres to the studs outside of the curved area.
- Apply pressure to the GIB Curveline® sheet bringing it into contact with the next stud.
- Place fasteners in the body of the curved area sufficient to hold the GIB Curveline® sheet onto the studs to form a consistent curve throughout the sheet.
- Fasten the other end of the GIB Curveline® at 200mm maximum centres to the studs outside the curved area.
- Offset the placement of fasteners on the face and rear sheets by 25mm minimum.
- Stagger the horizontal sheet joints between face and rear sheets by 200mm minimum.
- Fasteners are not required along the top and bottom of the curved wall area for the rear sheet. The fasteners used to fix the face sheet are sufficient to fix both layers to framing.
- Do not locate penetrations such as power points and light switches in curved wall sections.

Figure 4: Concave Curved - Horizontal Sheet Fixing

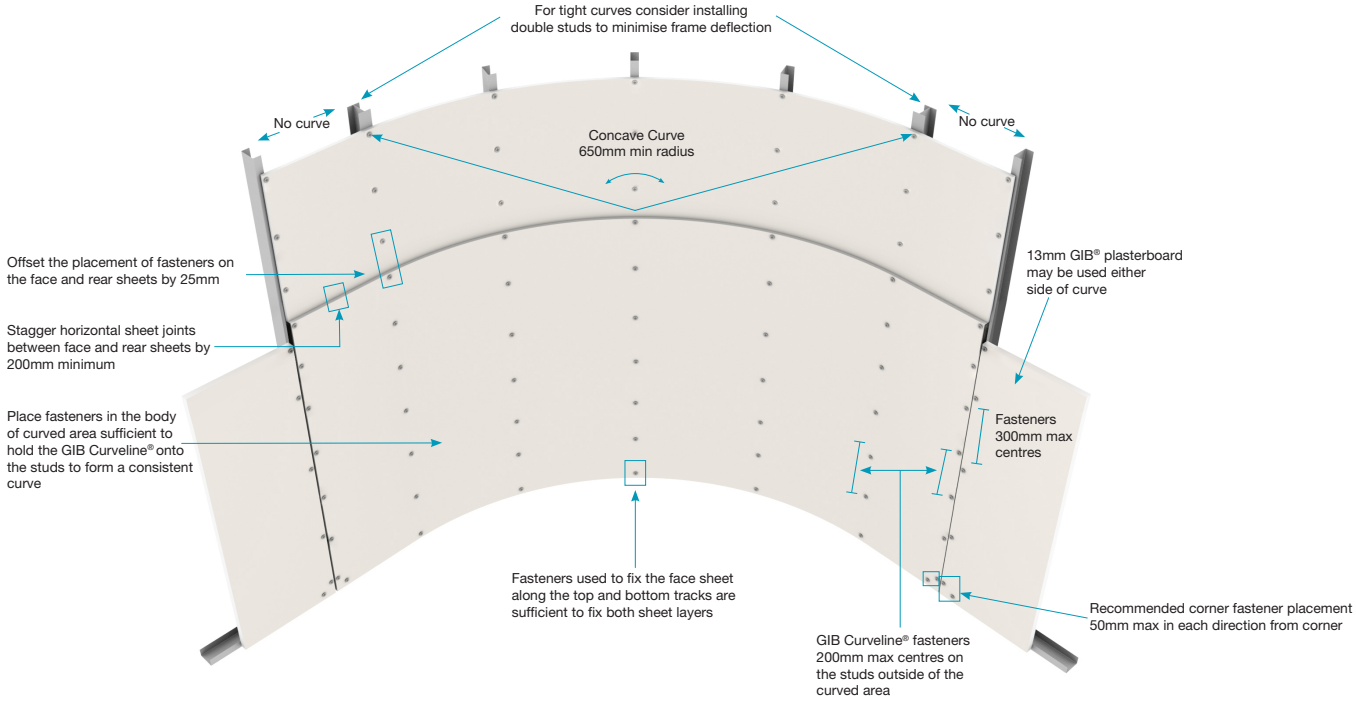
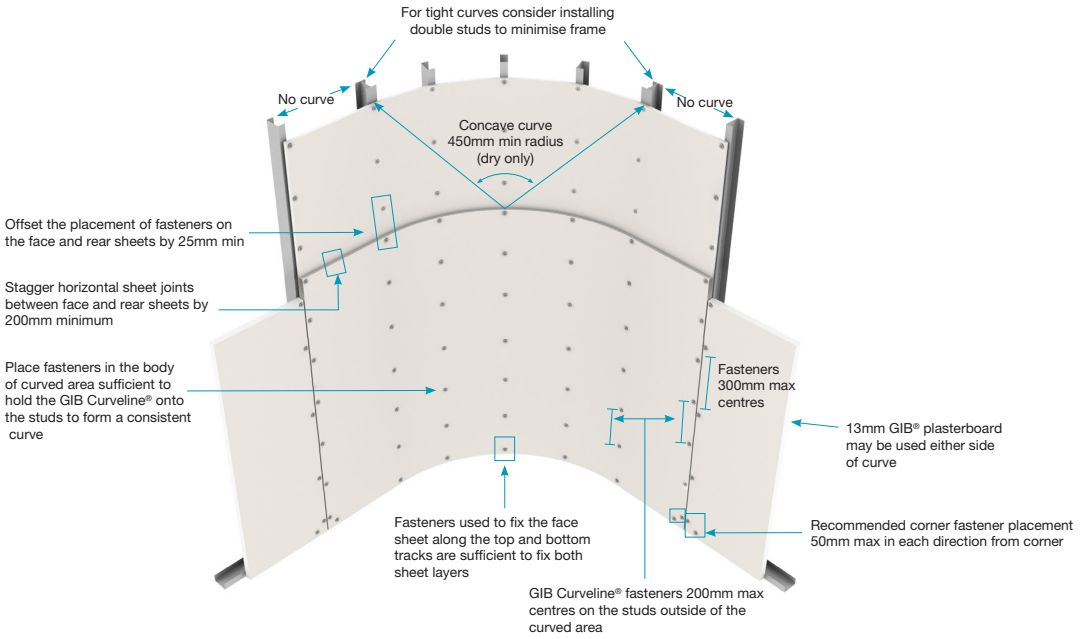


Figure 5: Concave Curved - Vertical Sheet Fixing



FIXING CONVEX CURVES WITH GIB CURVELINE®

- GIB Curveline® sheets should begin and end a minimum of one stud from the curved wall section.
- Fasten one end of the GIB Curveline® sheet at 200mm maximum centres to the studs outside of the curved area.
- Apply pressure to the GIB Curveline® sheet bringing it into contact with the next stud.
- Continue this process until the curve is fully formed against each stud. Fasteners are typically not required in the body of the curved area.
- Fasten the other end of the GIB Curveline® sheet at 200mm maximum centres to the studs outside of the curved area.
- Offset the placement of fasteners on the face and rear sheets by 25mm minimum.
- Stagger the horizontal sheet joints between face and rear sheets by 200mm minimum.
- Do not locate penetrations such as power points and light switches in curved wall sections.
- Fasteners are not required along the top and bottom of the curved wall area for the rear sheet. The fasteners used to fix the face sheet are sufficient to fix both layers to framing.

Figure 6: Convex Curved - Horizontal Sheet Fixing

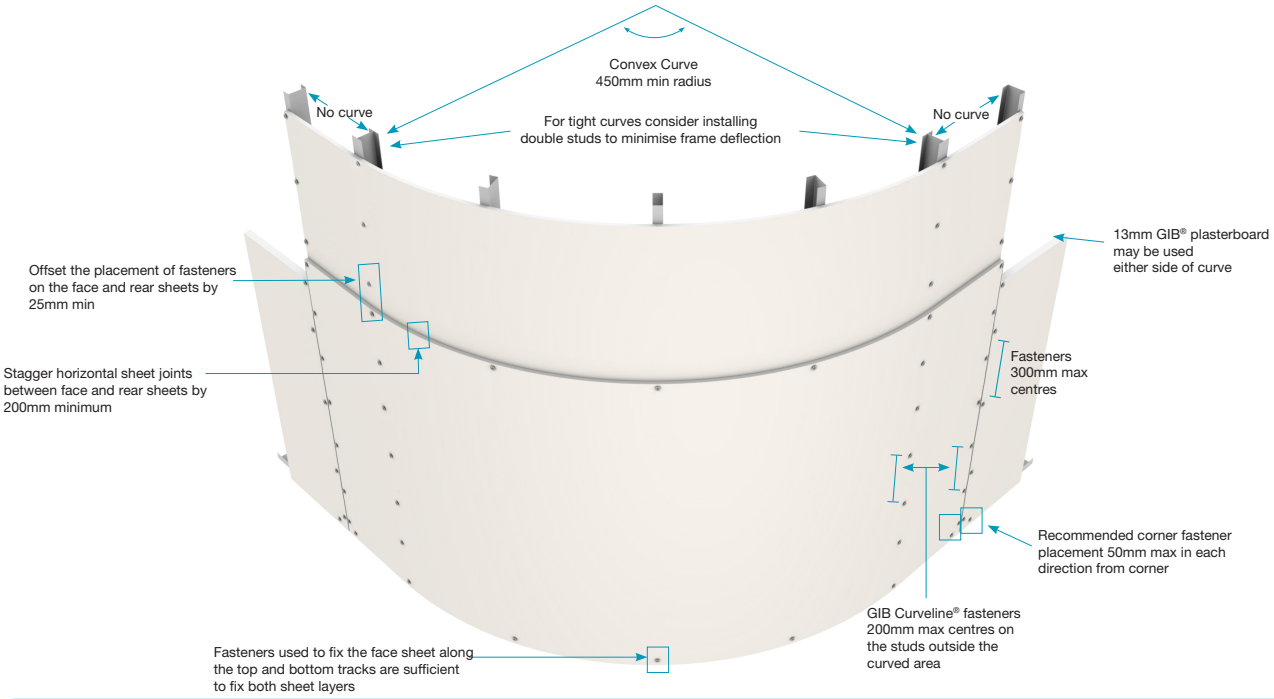
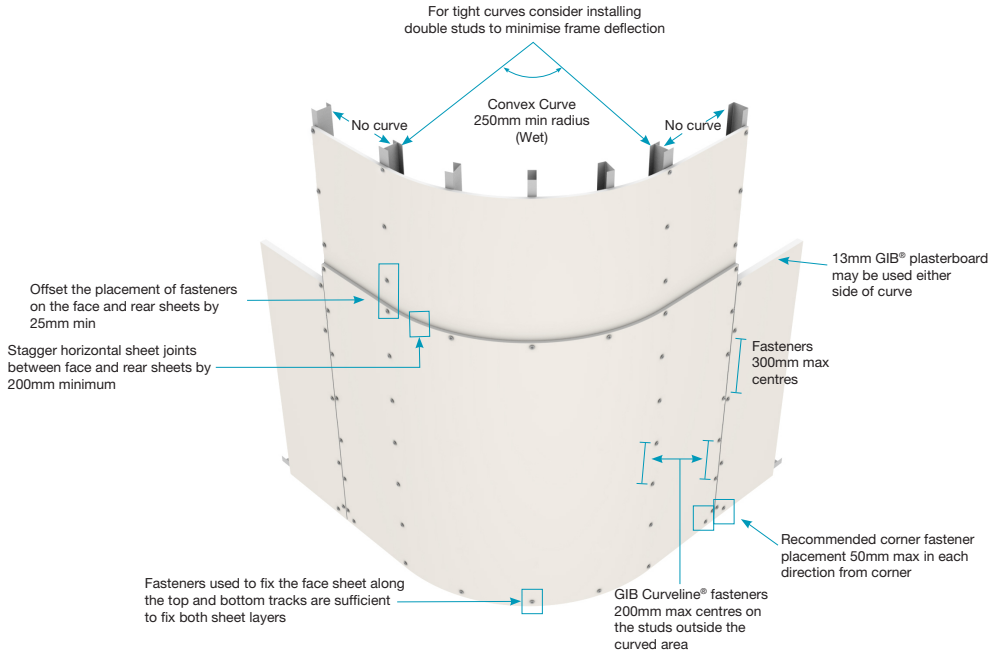


Figure 7: Convex Curved - Vertical Sheet Fixing



CURVED CEILINGS

To create curves in ceilings use 10mm and 13mm GIB® plasterboard. Maximum batten or joist spacings are shown in Table 5. Minimum sheet bending radii are shown in Table 1.

6.5mm GIB Curveline® is not recommended for use in ceilings.

When creating curves in ceilings follow the specification and installation guidance outlined in the general installation section of the GIB® Site Guide.

Table 5: Curved Ceiling and Maximum Batten or Joist Spacings

Minimum Radius (mm)	Maximum Batten or Joist Spacing (mm)
1000-1200	200
1200-3000	300
3000-4000	400
Over 4000	450 for 10mm GIB® plasterboard 600 for 13mm GIB® plasterboard

To limit sag, loads on GIB® plasterboard ceilings must not exceed an insulation weight of 4.2kg/m^2, and a fixture weight of 1kg or more unless they are independently supported. Limit the placement of ceiling fixtures such as light fittings to one fixture per m^2 unless independently supported.

Curved ceilings are not permitted in ceiling diaphragms.

CURVED BULKHEADS

GIB Curveline® can be used to create curved bulkheads. Below is guidance on how to form convex and concave bulkheads using GIB Curveline®. Framing shown below is indicative only and requires project specific design.

Refer to Table 1 for GIB Curveline® radii and maximum stud spacings.

Fasteners

- Timber framing, use 32mm x 6g GIB® Grabber® High Thread Drywall Screws.
- Steel framing, use 25mm x 6g GIB® Grabber® Self Tapping Drywall Screws.
- Offset inner and outer layer fasteners by 25mm minimum.

Figure 8: Concave Bulkheads

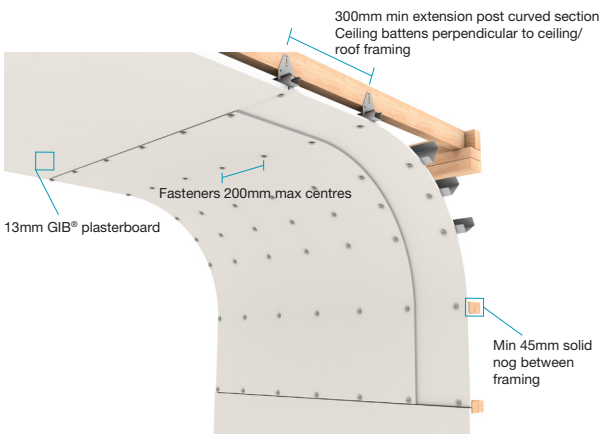
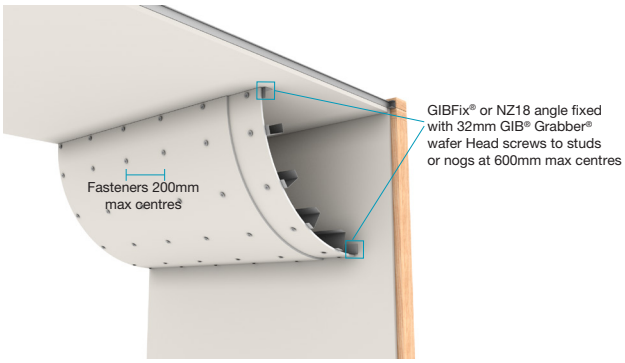


Figure 9: Convex Bulkheads



GIB® FIRE SYSTEMS

All paper-faced GIB® plasterboard sheet materials achieve a Group 1-S classification when tested in accordance with ISO 5660 Reaction to Fire Tests.

For specific fire rated system details, refer to the relevant GIB® specification manual or contact the GIB® Helpline 0800 100 442.

GIB® PERFORMANCE SYSTEMS

Curved internal walls (excluding 6.5mm GIB Curveline®) can be incorporated into GIB® performance systems provided the curving is carried out in accordance with the application method outlined in this literature.

6.5mm GIB Curveline® and/or the use of the Rondo® Flexible Track are not permitted for use in GIB EzyBrace® bracing elements.

For more information refer to the relevant GIB® specification manual or contact the GIB® Helpline 0800 100 442.

STOPPING AND FINISHING

For guidance on stopping and finishing, levels of finish and how to minimise the effects of critical light refer to the GIB® Site Guide.

Where multi-layer systems such as GIB Curveline® are used, stopping is only required on the outer layer.

When a Level 4 or better surface finish is desired, skim coat radii tighter than 450mm.

GIB CURVELINE® IS A SUITABLE SUBSTRATE FOR LIGHT TILES SUCH AS DECORATIVE MOSAIC TILES UP TO 16KG/M2

For heavier weight tiles above 16kg/m2 refer to the GIB® Wet Area specification and installation manual.

Applications Requiring Impervious Sheet Materials, a Waterproofing Membrane or Containment

GIB Curveline® is not suitable as a tiling substrate in areas requiring impervious sheet materials, a waterproofing membrane or containment of accidental overflow according to NZBC E3/AS1. Refer to the GIB® Wet Area specification and installation manual for guidance on areas requiring these

Table 6: GIB Curveline® Recommended Maximum Tile Weight

Lining	Stud Centres Maximum	Lining Thickness	Tile Weight
GIB Curveline®	200mm	6.5mm	16kg/m^2

Fastener Requirements for GIB Curveline® as a Tiling Substrate:

- Maximum fastener placement of 150mm centres along supporting studs.
- Use screw fixings in accordance with this manual. Glue fixing is not permitted.
- The fastener pattern for tiling applies to the outer GIB Curveline® layer only.

Figure 10: Concave Curve Tiling Substrate

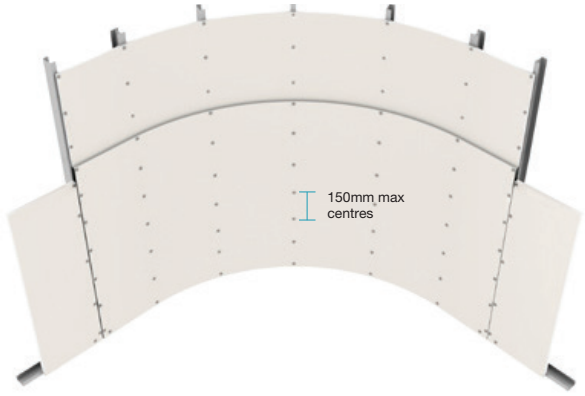
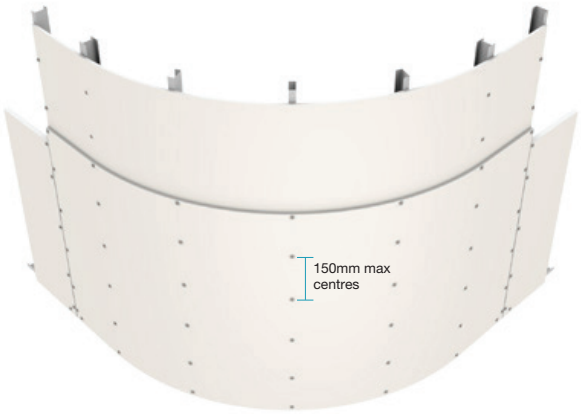


Figure 11: Convex Curve Tiling Substrate



SUSTAINABILITY

GIB Curveline® and GIB® plasterboard includes non-toxic natural gypsum cores which can be recycled into a range of compost and agricultural products. No harmful dust is created during the onsite cutting and installation process.
For more information visit www.gib.co.nz/sustainability

SUBSTITUTION

GIB Curveline® and GIB® plasterboard have been specifically designed and tested to achieve the stated performance levels. To maintain the GIB® Product and System Warranty, all system components detailed in this publication must be used when specifying and installing GIB Curveline®.

TRADEMARKS

The names GIB®, GIB Curveline® GIB Fyreline®, GIB Ultraline®, GIB Toughline®, GIB Braceline® GIB Noiseline®, GIB Aqualine®, GIB Weatherline®, GIB Tradeset®, GIB Plus 4®, GIB-Cove®, GIB Lite Blue®, GIBFix®, GIB® Quiet Stud®, GIB Rail®, GIB Barrierline®, GIB X-Block®, GIB Fire Soundseal®, GIB Clip®, the colour mauve for GIB Toughline®, the colour blue for GIB Braceline® GIB Noiseline®, the colour pink for GIB Fyreline®, the colour green for GIB Aqualine®, the colour purple for GIB Weatherline® and the shield device are registered trademarks of Fletcher Building Holdings Limited.

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