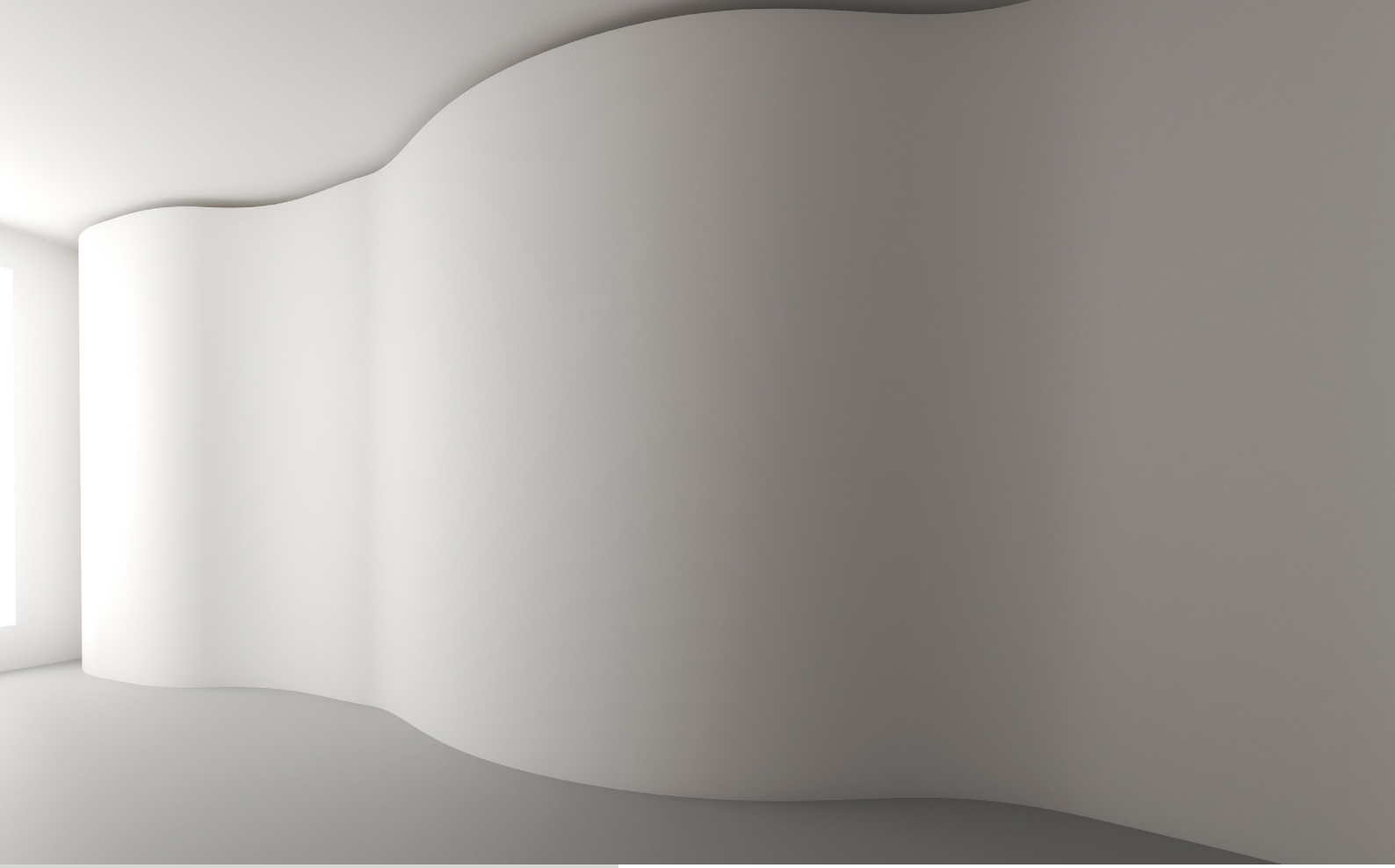


6.5 Curved Walls and Ceilings

Plasterboard can be curved to create imaginative architectural effects. With careful installation and proper framing methods, tightly curved walls and ceilings are possible.

curveshield is designed for this purpose and will achieve the tightest curves. All of the Siniat plasterboard product range can be curved if required.

This section provides details on how to bend plasterboard, including installation, framing geometry and bend radius information.

General Requirements

Only use curveshield for applications where the radius is less than 900mm.
Fix ceiling framing at 300mm maximum centres for installation of curveshield.
Ensure that the radius on the convex side is not too tight for the corresponding concave side.
Stagger recessed edges and butt joints by 200mm minimum between layers.

Wetting Curved Plasterboard

Hot, humid conditions are ideal for curving plasterboard. In cold, low-humidity conditions or if very tight curves are required, prepare the plasterboard as follows:

- Use a clean paint roller or sponge to apply a small amount of water to the plasterboard surface that will be in compression. Add a small amount of detergent to the water in very dry conditions to act as a wetting agent.
- Allow at least 15 minutes for the water to soak in before bending the plasterboard.

- Siniat Flexi-Track and stud system is recommended for framing curved walls or ceilings.
- Avoid joints parallel to studs in the curved section.
- Only the face layer needs to be jointed.
- The minimum curve radius is determined by the concave side.
- Two layers of curveshield must be used (single layer is not permitted).
- A tighter curve radius can be achieved by curving widthways [Figure 2]

Framing

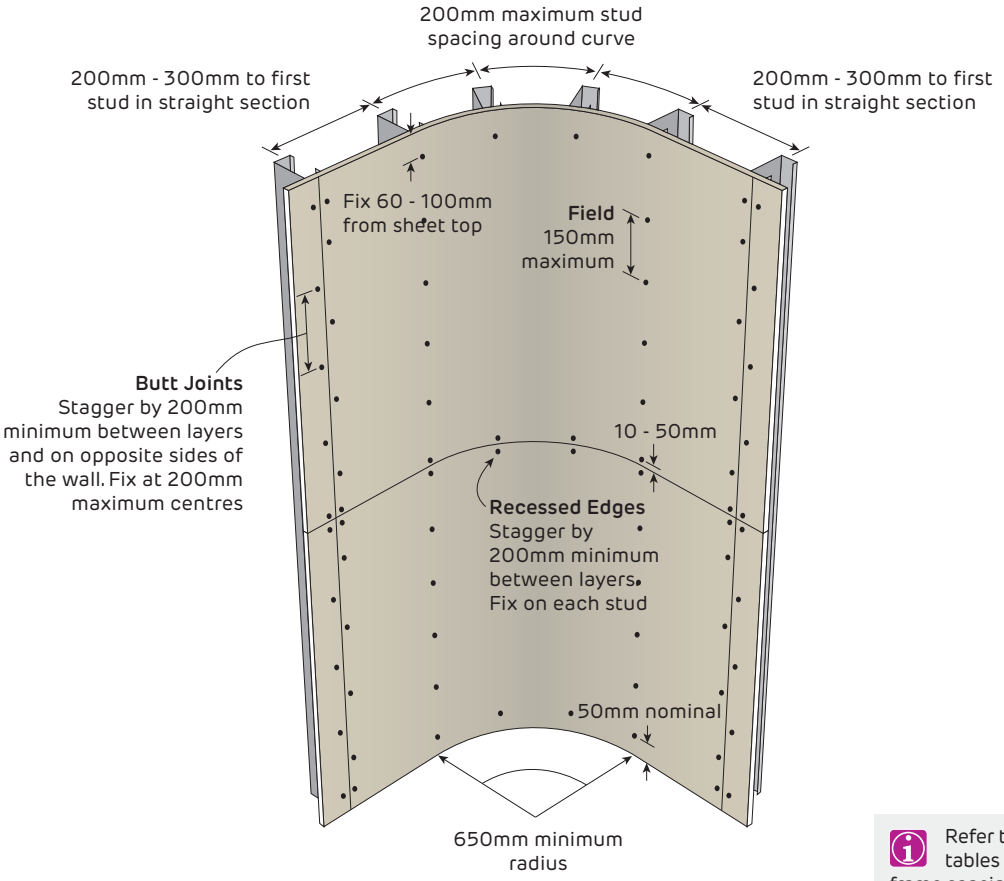
Table 1 Maximum Frame Spacing and Minimum Curve Radius for Curveshield

curveshield	Curve Radius (mm)						
	250 - 450	450 - 600	650 - 900	900 - 1000	1000 - 1500	1500 - 2000	> 2000
	Maximum Framing Centres (mm)						
Concave - curved along length	-	-	200	200	200	250	300
Convex - curved along length	-	200	200	200	200	250	300
Concave - curved along width	-	150	150	150	200	250	300
Convex - curved along width	125	150	150	150	200	250	300

Table 2 Maximum Frame Spacing and Minimum Curve Radius for regular Plasterboard

Other Plasterboards	mastashield only				All plasterboard except perforated		
	900 - 1000	1000 - 1500	1500 - 2000	2000 - 2500	2500 - 3000	3000 - 4000	> 4000
Plasterboard Thickness	Maximum Framing Centres (mm)						
10mm	150	200	250	300	350	400	500
13mm	-	150	200	250	300	400	500
16mm	-	-	-	-	200	250	350

FIGURE 1 Concave Wall - Horizontal
Curved lengthways
Screw Only Method



Refer to framing tables for maximum frame spacing along curves

FIGURE 2 Concave Wall - Vertical
Curved widthways
Screw Only Method

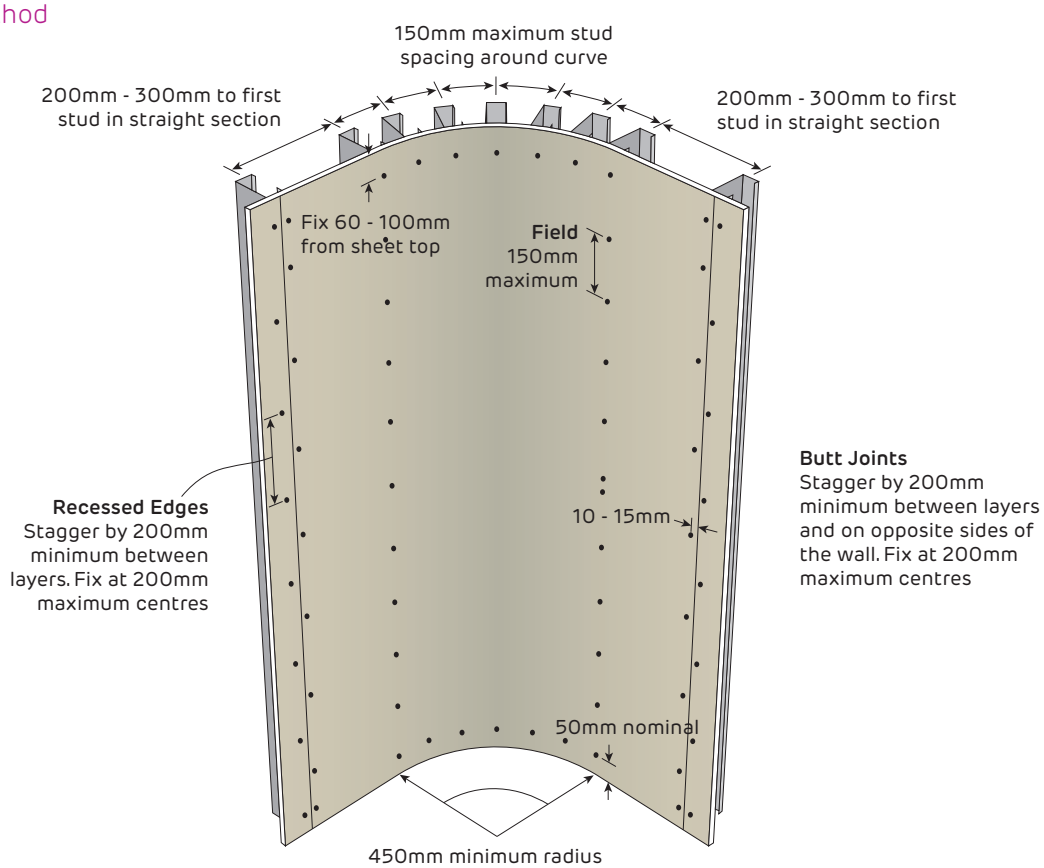
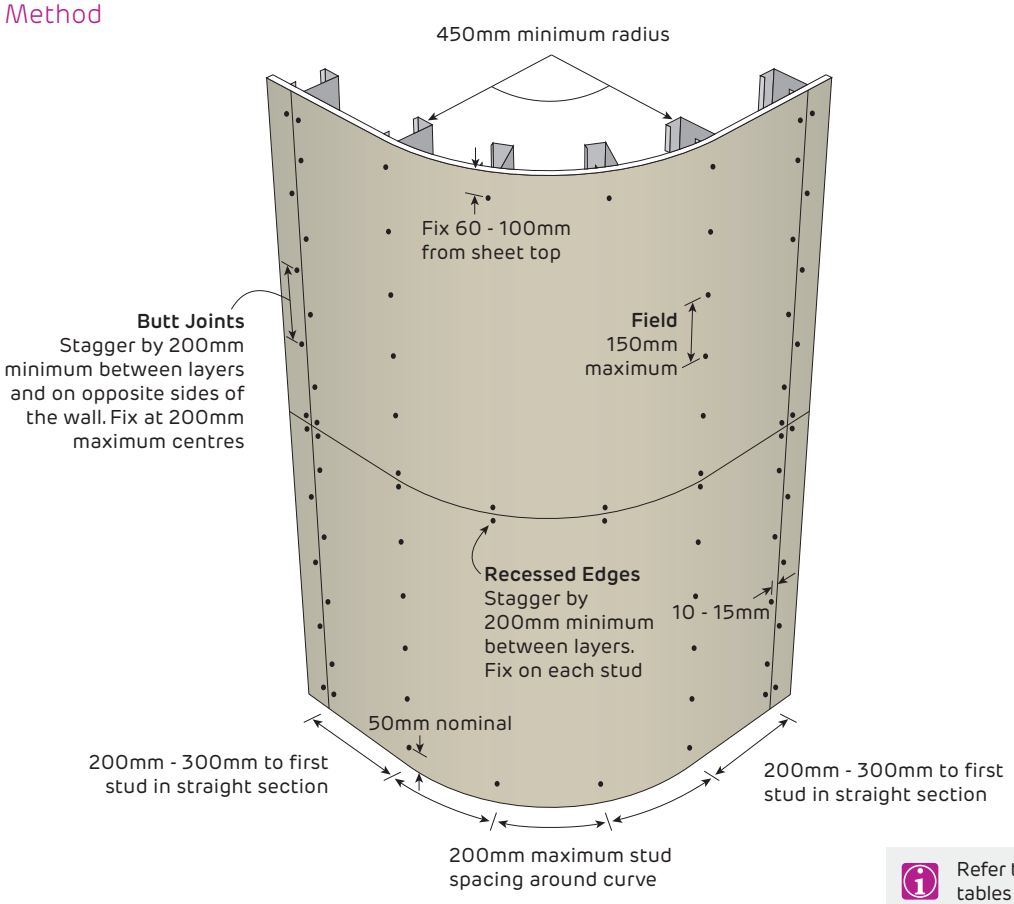
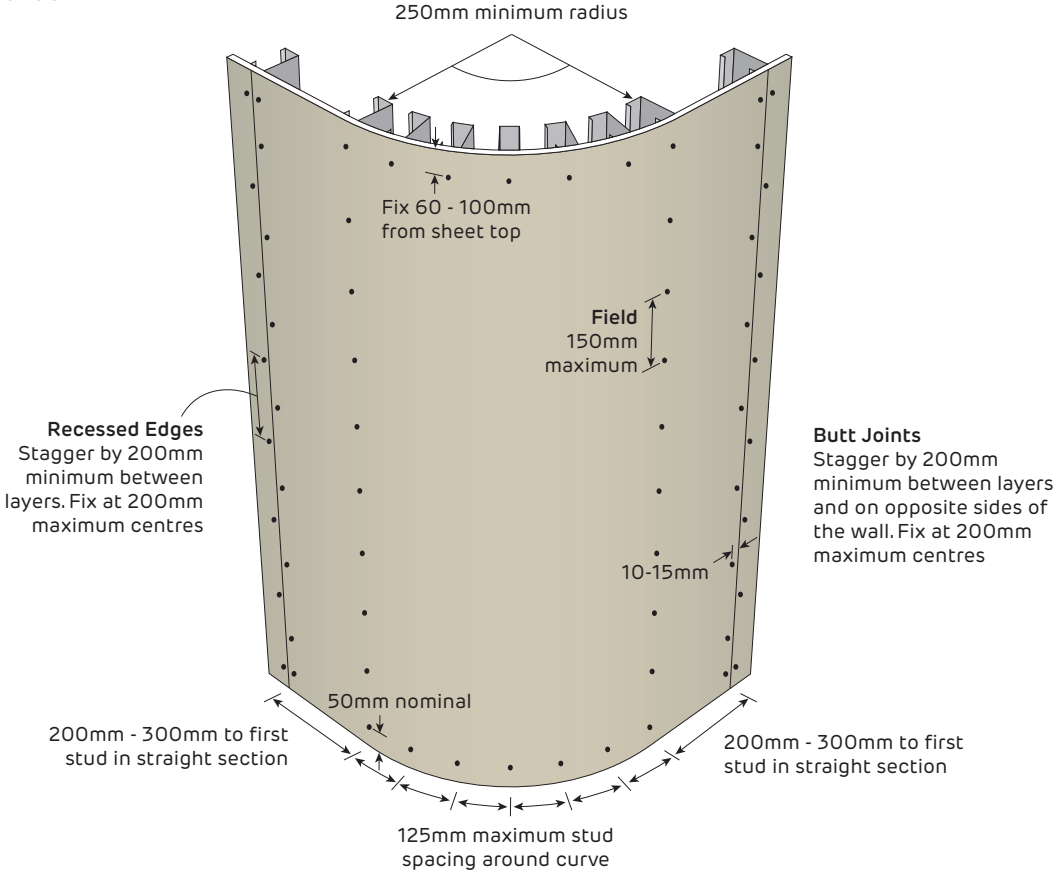


FIGURE 3 Convex Wall - Horizontal
Curved lengthways
Screw Only Method



Refer to framing tables for maximum frame spacing along curves

FIGURE 4 Convex Wall - Vertical
Curved widthways
Screw Only Method



Non-Fire Rated
Curved Wall

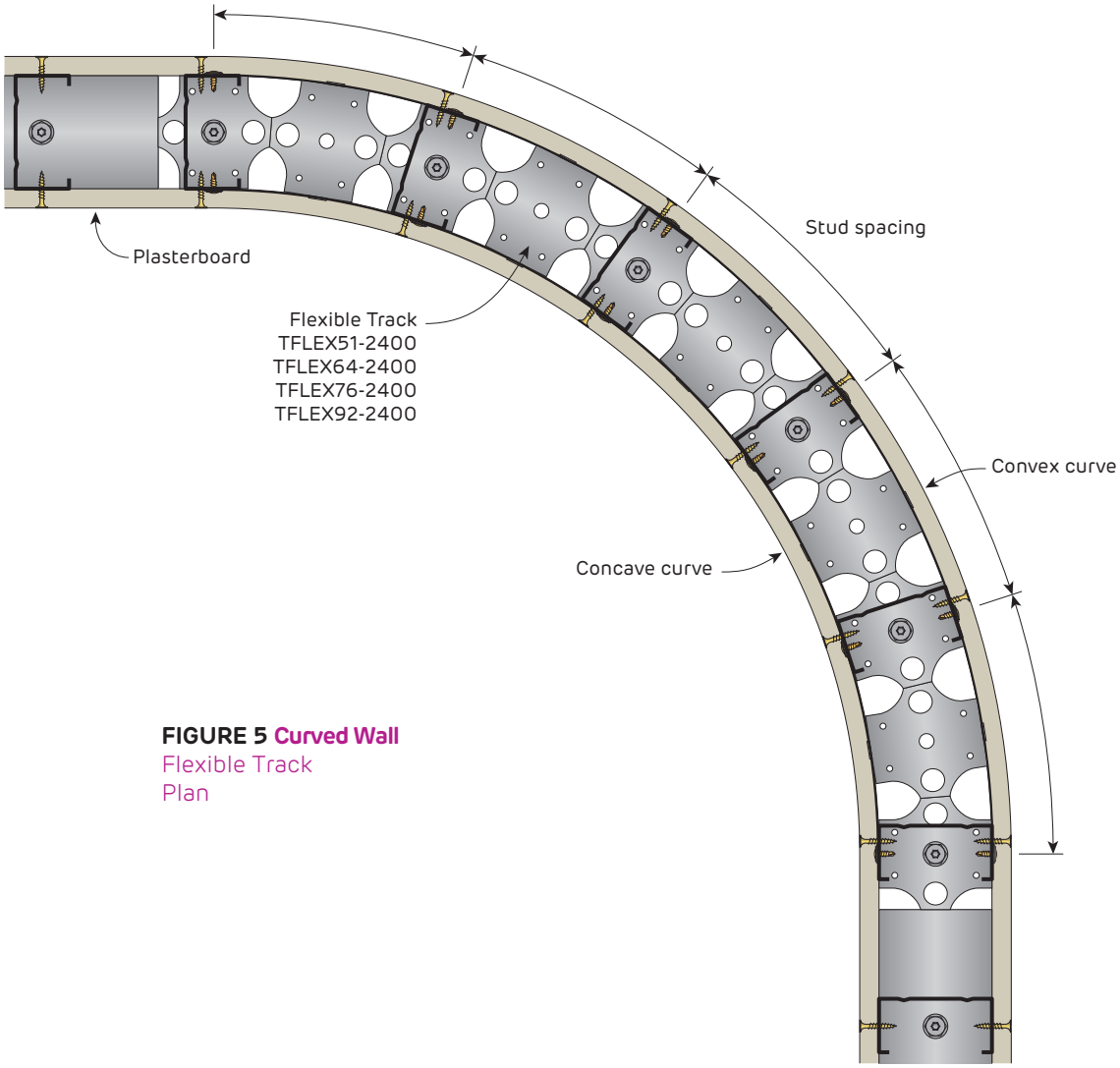


FIGURE 5 Curved Wall
Flexible Track
Plan

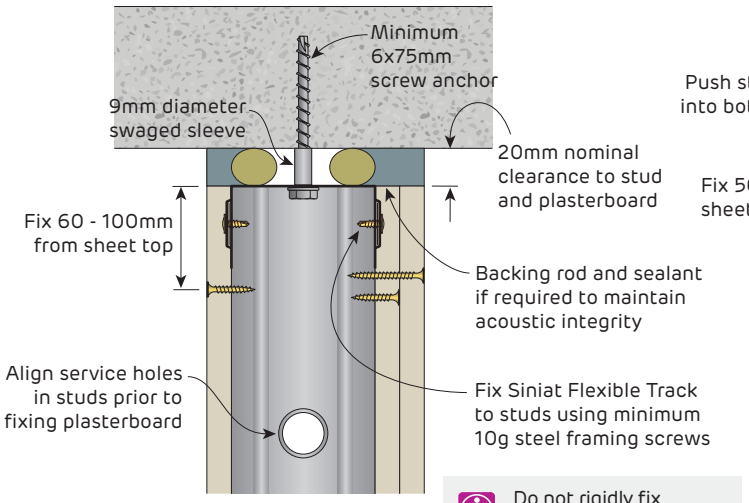


FIGURE 6 Wall Head
Flexible Track
Section

Do not rigidly fix cornice to non-load bearing wall head and soffit, as slab deflection is expected.

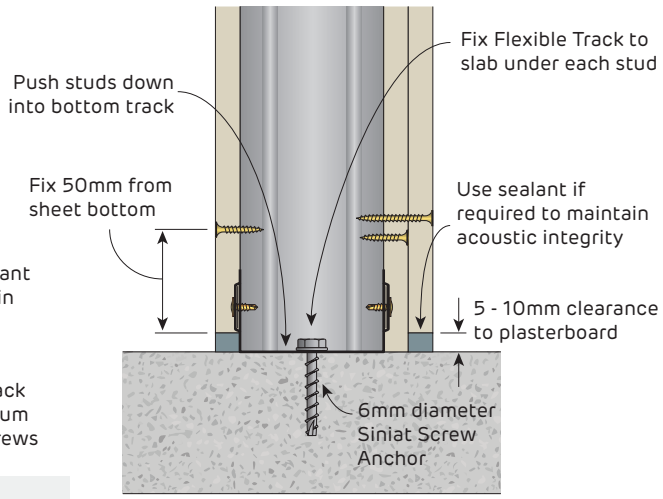


FIGURE 7 Wall Base
Flexible Track
Section

Non-Fire Rated
Curved Ceiling

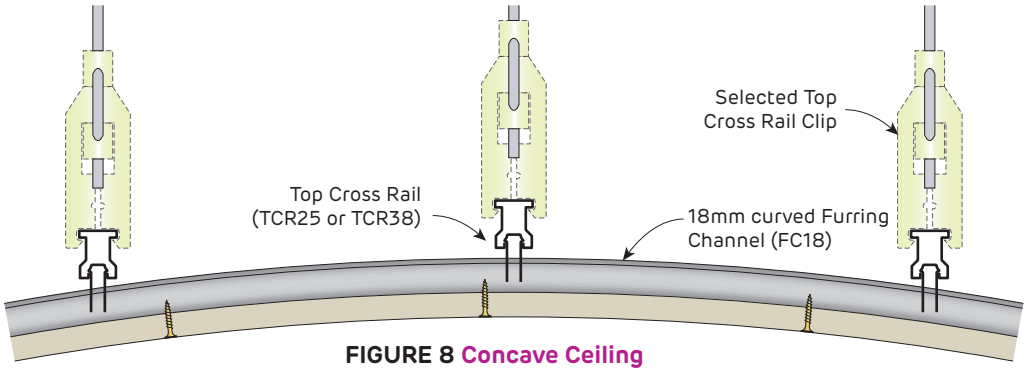


FIGURE 8 Concave Ceiling
Concave furring channel
Section

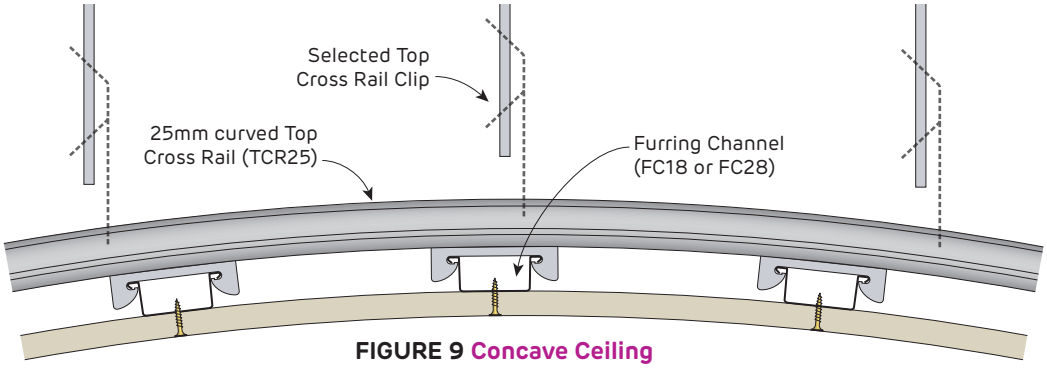


FIGURE 9 Concave Ceiling
Concave top cross rail
Section

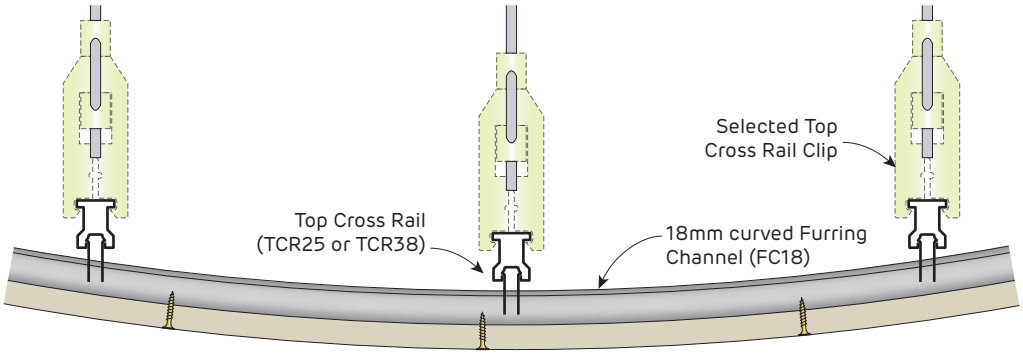


FIGURE 10 Convex Ceiling
Convex furring channel
Section

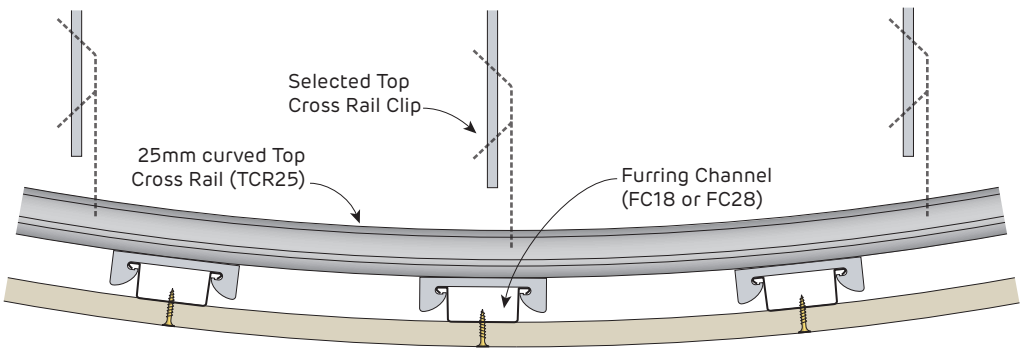


FIGURE 11 Convex Ceiling
Convex top cross rail
Section