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 Knauf 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.

Curve plasterboard along the short edge (widthways) for tighter radii and easier jointing.

Curve fire rated walls and ceilings to a minimum radius of 3000mm.

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.

FRAMING

MAXIMUM FRAME SPACING AND MINIMUM CURVE RADIUS FOR CURVESHIELD

<table>
<thead>
<tr>
<th>Curve Radius (mm)</th>
<th>250-450</th>
<th>450-650</th>
<th>650-900</th>
<th>900-1000</th>
<th>1000-1500</th>
<th>1500-2000</th>
<th>2000-2500</th>
<th>2500-3000</th>
<th>3000-4000</th>
<th>&gt; 4000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concave CurveShield Curved along length</td>
<td>–</td>
<td>–</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>250</td>
<td>300</td>
<td>350</td>
<td>450</td>
<td>550</td>
</tr>
<tr>
<td>Convex CurveShield Curved along length</td>
<td>–</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>250</td>
<td>300</td>
<td>350</td>
<td>450</td>
<td>550</td>
</tr>
<tr>
<td>Concave CurveShield Curved along width</td>
<td>–</td>
<td>150</td>
<td>150</td>
<td>200</td>
<td>250</td>
<td>300</td>
<td>350</td>
<td>450</td>
<td>550</td>
<td></td>
</tr>
<tr>
<td>Convex CurveShield Curved along width</td>
<td>125</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>200</td>
<td>250</td>
<td>300</td>
<td>350</td>
<td>450</td>
<td>550</td>
</tr>
</tbody>
</table>

MAXIMUM FRAME SPACING AND MINIMUM CURVE RADIUS FOR OTHER PLASTERBOARD

<table>
<thead>
<tr>
<th>MastaShield only</th>
<th>All plasterboard except AcoustiShield*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curve Radius (mm)</td>
<td>900-1000</td>
</tr>
<tr>
<td>Plasterboard Thickness</td>
<td>Maximum Framing Centres (mm)</td>
</tr>
<tr>
<td>10mm</td>
<td>150</td>
</tr>
<tr>
<td>13mm</td>
<td>–</td>
</tr>
<tr>
<td>16mm</td>
<td>–</td>
</tr>
</tbody>
</table>

*AcoustiShield has a minimum curve radius of 5000mm
PLASTERBOARD FIXING

3.6.6 Curved Walls and Ceilings

**FIGURE 1 Concave Wall – Horizontal**
Curved lengthways

- 200mm min / 300mm max to first stud in straight section
- 200mm max staggered
- 650mm minimum radius

**FIGURE 2 Concave Wall – Vertical**
Curved widthways

- 200mm min / 300mm max to first stud in straight section
- 150mm max stud spacing around curve
- 450mm minimum radius

---

**Fixing**
- Screw Only Method

**Sheet Layout**
- Horizontal

**Fasteners**
- Perimeter screws 10-15mm from sheet edges except at top and bottom tracks. Plasterboard must not be fixed to top and bottom tracks.

**Field**
- Fix at 150mm max centres on straight sections. Do not fix screws on the field of the plasterboard in the curved section.

**Recessed Edges**
- Fix on each stud. Stagger recessed edges by 300mm min between layers.

**Butt Joints**
- Fix at 200mm max centres and stagger screws. Stagger butt joints by 300mm between layers and on opposite sides of the wall.

**Sealant**
- Use sealant on all gaps and around perimeter to maintain acoustic integrity. [Refer to Construction Details]

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**Fixing**
- Fastener Only Method

**Sheet Layout**
- Vertical

**Perimeter**
- Perimeter fasteners 10-15mm from sheet edges

**Field**
- Fix screws or double nails at 300mm max centres. Fix nails at 200mm max centres.

**Recessed Edges**
- Fix screws at 200mm max centres. Fix nails at 150mm max centres. Stagger fasteners. Stagger recessed edges by 300mm min on opposite sides of the wall. Recessed edges must be backed by a stud.

**Butt Joints**
- Fix screws at 200mm max centres. Fix nails at 150mm max centres. Stagger fasteners. Stagger butt joints by 600mm min on adjoining sheets and on opposite sides of the wall. 1st layer butt joints must be backed by a nogging.

**Internal and External Corners**
- Fix at 200mm max centres

**Openings**
- Fix at 200mm max centres

**Fire Sealant**
- Use fire sealant on all gaps and around perimeter to maintain fire and acoustic integrity. [Refer to Construction Details]

**Jointing Face Layer**
- As a minimum, only use paper tape with either two coats of MastaBase/MastaLongset or three coats of MastaLite. [Refer to Section 4]
### FIGURE 3 Convex Wall – Horizontal
Curved lengthways

450mm minimum radius

**Fixing** | Screw Only Method
---|---
**Sheet Layout** | Horizontal
**Fasteners** | Perimeter screws 10-15mm from sheet edges except at top and bottom tracks. Plasterboard must not be fixed to top and bottom tracks.
**Field** | Fix at 150mm max centres on straight sections. Do not fix screws on the field of the plasterboard in the curved section.
**Recessed Edges** | Fix on each stud. Stagger recessed edges by 300mm min between layers.
**Butt Joints** | Fix at 200mm max centres and stagger screws. Stagger butt joints by 300mm between layers and on opposite sides of the wall.
**Sealant** | Use sealant on all gaps and around perimeter to maintain acoustic integrity. [Refer to Construction Details]

200mm max stud
Fix on each stud
staggered

200mm min / 300mm max to first stud in straight section

200mm min / 300mm max to first stud in straight section

200mm max stud
spacing around curve

**FIGURE 4 Convex Wall – Vertical**
Curved widthways

250mm minimum radius

**Fixing** | Screw Only Method
---|---
**Sheet Layout** | Vertical
**Fasteners** | Perimeter screws 10-15mm from sheet edges except at top and bottom tracks. Plasterboard must not be fixed to top and bottom tracks.
**Field** | Fix at 150mm max centres on straight sections. Do not fix screws on the field of the plasterboard in the curved section.
**Recessed Edges** | Fix at 200mm max centres and stagger screws. Stagger recessed edges by 300mm min between layers and on opposite sides of the wall.
**Butt Joints** | Fix at 200mm max centres and stagger screws. Stagger butt joints by 600mm min between layers, on adjoining sheets and on opposite sides of the wall. 1st layer butt joints must be backed by a nogging or backblocked.
**Sealant** | Use sealant on all gaps and around perimeter to maintain acoustic integrity. [Refer to Construction Details]

200mm min / 300mm
max to first stud in
straight section

200mm min / 300mm
max to first stud in
straight section
FIGURE 5 Curved Wall
Plan view
3.6.6 Curved Walls and Ceilings

Refer to curve table

Top cross rail (curved)

Screw each side of lock-key to top cross rail

1200mm max

150mm max

Refer to curve table

Furring channel (curved)

A-clip

Curved plasterboard

FIGURE 6 Curved Suspended Ceiling
Elevation

FIGURE 7 Curved Ceiling
Elevation