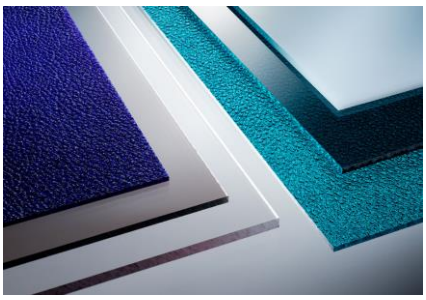

marlon fs
Cold Line Bending

Marlon FS/FSX can be cold line bent, however large residual stresses can be generated around the formed area, reducing the impact resistance, mechanical performance and chemical resistance of the material. It should only be used in less onerous applications where impact resistance is not the most critical factor in the design. The UV resistance of the outside of the corner will be reduced.

The success of this type of operation depends on the condition of the tools. Any damage will be transferred to the polycarbonate and can lead to stress concentrations and failure of the sheet.

The cut edges of polycarbonate must be notch free and smooth to reduce the risk of cracking from the side of the sheet at the bend.

There will be thinning of the sheet on the outer side of the bend due to the stretching of the material. Trialling should take place to make sure that the result is acceptable.

Sheets less than 6mm can be bent to an angle of 90°. The limit for thicker sheets is 45°. (Fig. 1)

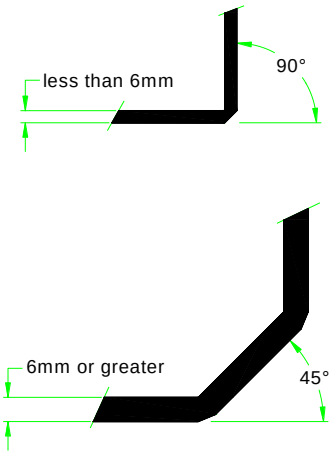

Fig. 1. Cold bending limits for flat sheets

Guidance:

- Use premium condition, sharp tooling punches and dies.
- Bending should be performed quickly.
- Over bending is required to achieve the correct angle.
- It can take 1-2 days for the bend to relax to its final position.
- Do not force the bend from its natural position during installation.
- The part should not be re-worked.
- Embossed sheet should only be bent with the embossed surface to the inside of the corner.
- Tinted sheet may discolour along the corner due to the thinning of the sheet.
- Normal safety considerations apply, including the use of eye protection and gloves.

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