

marcryl 

Solid acrylic
sheet

marcryl fs



The versatility, ease of fabrication and scratch resistance of Marcryl FS acrylic sheet make it the perfect choice for use in interior design, point of sale and display applications.

marcryl fs



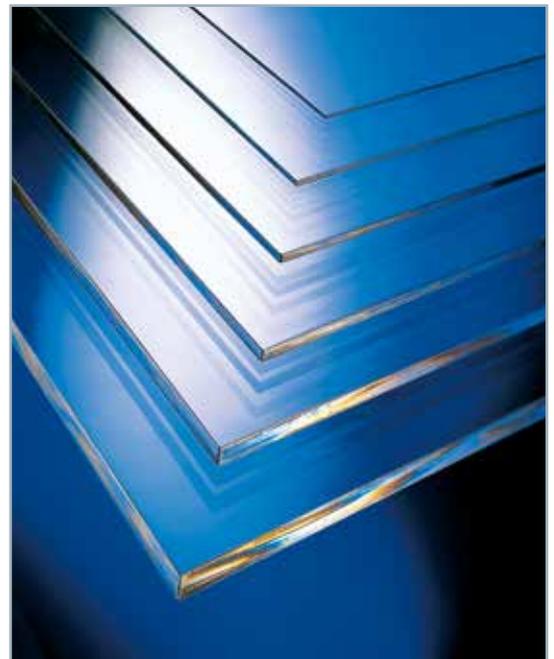
Plastic Sheets

MARCRYL FS IS A TOP QUALITY ACRYLIC SHEET, WITH A HIGH GLOSS FINISH THAT OFFERS A COMBINATION OF EXCELLENT OPTICAL CLARITY AND WEATHERABILITY AT ONLY HALF THE WEIGHT OF GLASS. STRICT PRODUCTION AND QUALITY CONTROL ENSURE A HIGHLY CONSISTENT PREMIUM PRODUCT SUITABLE FOR A WIDE VARIETY OF APPLICATIONS IN THE DISPLAY, FABRICATION AND BUILDING INDUSTRIES.

marcrynfs

SOLID ACRYLIC SHEET

Marcryn FS high gloss acrylic sheet offers a combination of excellent optical clarity and weatherability at only half the weight of glass.



marcrylic fs

Solid Acrylic Sheet

MARCRYL FS INCLUDES A PORTFOLIO OF CLEAR TRANSPARENT, OPAL AND SILICA GREEN ACRYLIC SHEETS IN A RANGE OF DIFFERENT THICKNESSES TO SUITE ENDLESS APPLICATION POSSIBILITIES IN THE SIGN & DISPLAY AND BUILDING INDUSTRIES. THE MATERIAL OFFERS EXCELLENT IMPACT STRENGTH AND HAS A GOOD STRETCH RESISTANCE, YET IT IS LIGHT IN WEIGHT AND EASY TO HANDLE.



MAIN BENEFITS

- Up to 92% light transmission (3mm clear)
- Good light diffusion (opal)
- Easy to fabricate with excellent thermoforming capabilities
- Easy to mount
- Good scratch resistance, polishing removes scratches easily
- UV stable
- Outstanding weatherability & resistance to high temperatures
- Weight savings over glass
- Good thermal insulation
- High gloss finish
- Inert to many corrosive materials
- Can be cold curved to certain minimum radii
- High break resistance
- Limited 10 year warranty

Key benefit is the exceptional optical clarity it provides, offering a light transmission of 92%. Combined with a high quality surface, Marcryl FS is particularly suitable for those projects that require high transparency and impact strength including glazing, machine guards, poster covers, partition walls and interior design projects. In addition, the high light transmission make the product ideal for use in the retail sector, especially for point of sale displays.

Another key benefit is the easy of fabrication and excellent thermoforming capabilities it offers. The material can be easily bent and formed into shapes to meet different design requirements. The gloss and shiny finish gives the material a bright feel, whilst visual stunning effects can be achieved by polishing the edges. This combination of attributes make Marcryl FS the perfect choice for product displays, point of purchase displays, store fixtures, shelving, furniture and interior design projects.

In addition to the clear transparent finish, Marcryl FS is also available in an opal and silica green finish. The gloss, opal surface provides excellent light transmission and can be used for dramatic lighting effects. The silica green option comes with a green edge which looks like tempered glass, especially after edge polishing.



TYPICAL APPLICATIONS

Print & Display

- Illuminated & non-illuminated signage
- Displays
- Point of purchase/sale
- Poster covers
- Menu boards
- Store fixtures
- 3-Dimensional signs & displays

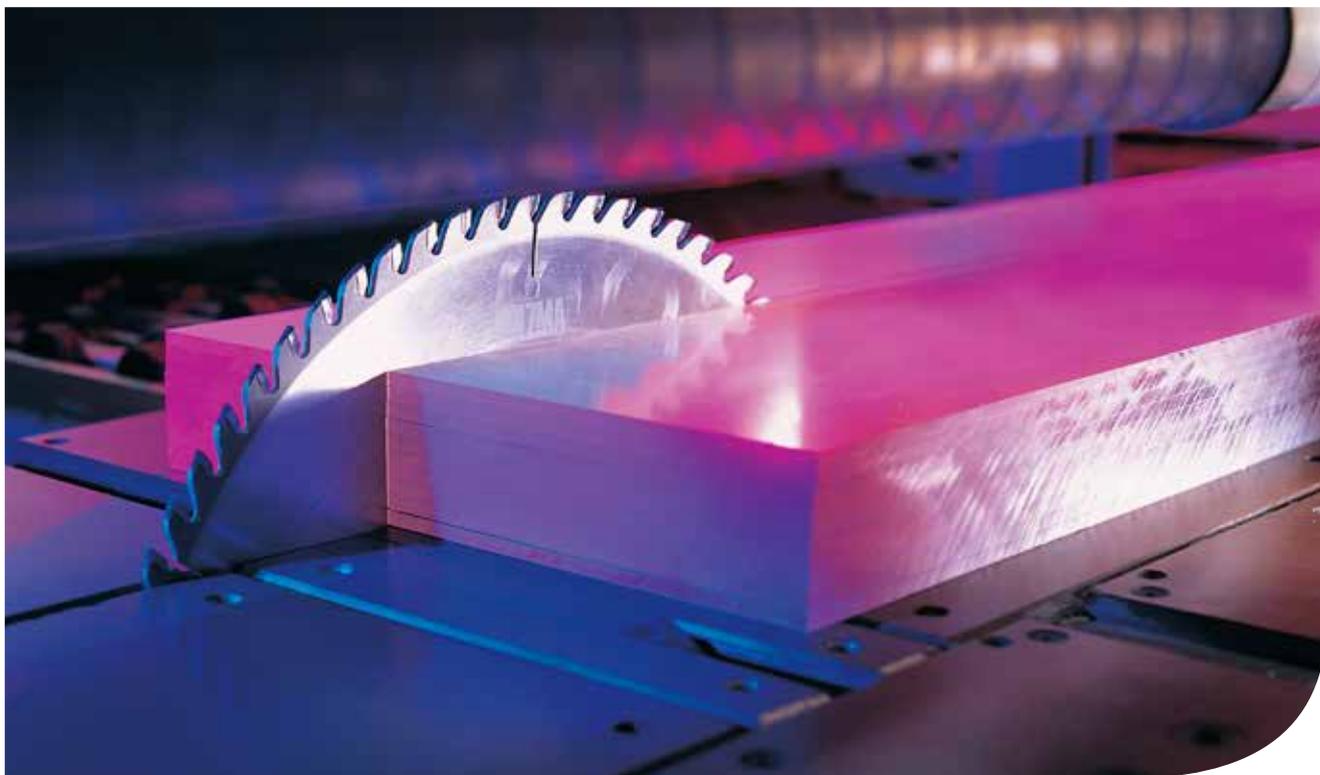
Fabrication

- Glazing
- Light fittings
- Decoration
- Furniture
- Interior design projects
- Picture framing
- High traffic acoustic barriers

OPTIONS

Colours and tints:	Clear and specials including Opal & Silica Green
Widths:	Up to 2050mm
Thicknesses:	2, 3, 4, 5, 6, 8 & 10mm
Options*:	Special options are available on request

*Subject to request. Minimum order quantities may apply.
Please contact Brett Martin for further information.



Fabrication Guidelines

MACHINING & MILLING

Marcryl FS is easy to work with using most standard workshop equipment and can be machined on conventional high-speed milling machines. To ensure the best quality results, tool speed should be kept at the optimum level possible without causing the sheet to overheat (cooling measures can also be taken, such as an air jet directed at the cutting edge), with cutting tools always kept sharp.

SAWING & CUTTING

Hand, band, circular and jigsaws can be used to cut Marcryl FS.

- **Hand saw** - It is difficult and time-consuming to produce good edge finishes with a hand saw but it is possible.
- **Band saw** - Useful tool for cutting Marcryl FS before final finishing, or to cut thick sheets.
- **Circular saw** - Accurate and smooth edges are possible, with the material being fed through slowly.
- **Laser cutting** - Allows complex shapes to be cut accurately to produce a finish product, with little or no need for any final polishing.

DRILLING

Drill bits specially designed for acrylic are recommended but any commercially available drill for wood or metal can also be used.

When these are being used, it is advisable to grind small flat areas on to two cutting edges and use a slower speed and feed rate. Always ensure the material is well clamped to prevent movement.

BENDING & ANNEALING

Straight line bends are possible using electrical strip heaters applied locally along the bend line, then allowing the sheet to cool naturally in its new shape. Before any further processes such as printing occur, annealing in an air circulation oven may be required to relieve internal stresses.



THERMOFORMING

Marcryl FS can be highly stretched at relatively low temperatures. The forming process can occur more slowly, as it is of a rubbery nature and the surface quality of the semi-finished material is largely retained.

Methods of thermoforming used on Marcryl FS include:

- **Vacuum forming**
A versatile method of forming, generally used for simple shapes.
- **Drape forming**
Can be used to produce designs of greater depth than vacuum forming.
- **Mould forming**
Uses two moulds, producing more accurate shapes.
- **Free forming**
No mark-off is created with this method.

When using thermoplastic moulding techniques the material should be heated to 140 - 170°C, some experimentation may be required to maintain the good optical quality of the surface.

IT IS RECOMMENDED THAT THE PROTECTIVE FILM IS REMOVED BEFORE PRE-DRYING OR THERMOFORMING AS HEATING MAY RESULT IN IT ADHERING TO THE SHEET.

- It may be possible to dispense with pre-drying if the protective film remains intact and the material has been stored correctly.
- Pre-drying is not normally required when line bending or if fast, effective heating is used.
- If required, pre-drying at 75-80°C for 24 hours is adequate.
- Thermoforming should be carried out as soon as possible after pre-drying, as re-absorption of moisture will occur.
- Material should be heated to 140-170°C - some experimentation may be required to maintain the good optical quality of the surface.
- Material should be heated for as short a time and to the lowest temperature practicable – the material begins to degrade at temperatures above 200°C, which can lead to flammable gases.
- Uniform heating over the whole sheet will help achieve good results.
- Stress can be generated by thermoforming at too low a temperature or poor mould design.
- Inherent stress can be relieved by heating the component from room temperature slowly (18°C per hour) to 70-85°C.
- This temperature should be maintained for 1 hour up to 3mm thickness, 2 hours up to 6mm thickness and 3 hours up to 12mm thickness.
- The component should then be cooled slowly (12°C per hour) to room temperature.

BONDING

Marcryl FS sheets can be joined together using a variety of methods and tools. These include solvents, cements and adhesives. The sheets can also be welded using many of the standard methods - nuts, bolts and screws are also frequently used to join sheets.

ROUTING, ENGRAVING & SANDING

Excellent results can be achieved on Marcryl FS with routing and engraving techniques, and sanding will easily and effectively remove any scratches that occur during the fabrication process.

POLISHING

Various methods of polishing can be used on Marcryl FS. This can simply be abrasive or hand polishing to restore Marcryl FS' high gloss appearance after fabrication or sanding, or more intensive machine polishing. Flame polishing creates a bright, shiny edge finish and is particularly effective on silica green material.

PRINTING & VINYL APPLICATION

Screen printing is a common method of printing on flat surfaces of Marcryl FS sheets which gives clear, bright colours and which still allows the sheets to be thermoformed afterwards. As the ink will not soak into the sheets as it would with paper or boards, the printing can be damaged by scratching and abrasion and it is recommended that a light coat of clear lacquer is used to protect the surface print. Only inks and varnishes suitable for acrylic should be used. This also applies to the use of adhesive vinyls, and care should be taken to prepare the sheet surface correctly before proceeding.

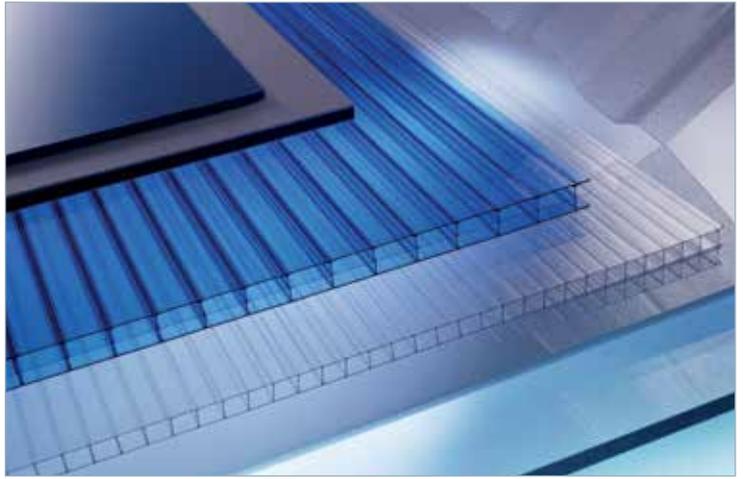
INSTALLATION

Marcryl FS sheets are often mounted into frames and care must be taken to avoid breakage or distortion. The sheets have a high coefficient of thermal expansion and therefore sufficient space must be left for expansion, both of the sheet itself and any fixing holes needed.

STORAGE

The edges of Marcryl FS sheets can be quite sharp and gloves should be worn when handling. Sheets should be kept in a dry storage area and preferably covered, to avoid any absorption of moisture. Although they can be stored on their edges, it is recommended that they are kept flat on their delivery pallets.





Brett Martin's plastic sheets product range includes extensive options in foam PVC, polycarbonate, PVC, acrylic, aPET, PETg, SAN and styrene.

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