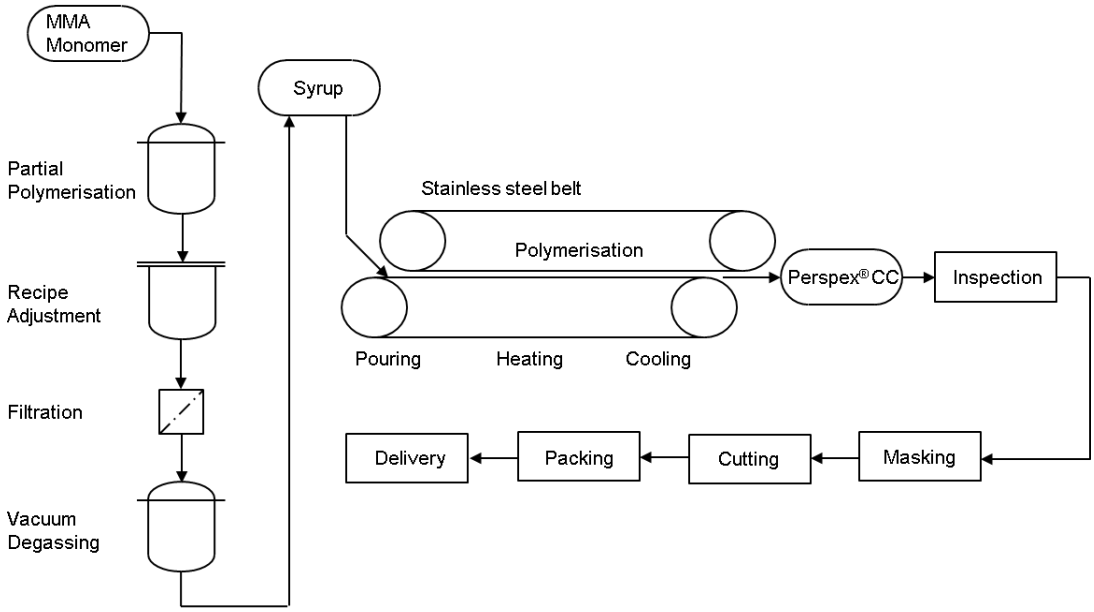
Perspex® CC
Technical Data Sheet

Perspex® CC is an acrylic sheet, manufactured by the continuous cast method of production and only available (in Europe) through Lucite International. It offers unique performance benefits during fabrication and in service.

1. Method of production

A methyl methacrylate (MMA) based syrup is poured between two horizontal, highly polished stainless steel conveyor belts. The syrup polymerises as it passes through these belts under high pressure and tight temperature control. This method of acrylic sheet production gives it its own distinctive performance benefits.



2. Benefits of using Perspex® CC acrylic sheet

During Fabrication:

- Superb thickness tolerance, beneficial for any fabrication processes and in particular producing mitred joints. Also ideal for use in frames, profiles or shelf designs.
    - 2mm +/-10%, 3-10mm +/-5%
- Excellent optical clarity giving lower reject rates in critical optical and high end applications
    - 92% light transmission in clear sheet
    - Long light path transmission for edge-lit applications, 91% light transmission (200 mm through the edge of the sheet)
    - No optical distortion due to extrusion lines, gels or 'venetian blind' effect
    - Superior edge colour in clear sheet
    - No black speck contamination
- Ease of fabrication – excellent suitability for various fabrication methods leading to lower reject rates and lower post fabrication costs
    - Thermoforming
        - Ease of forming at lower temperatures and giving good product definition.
        - Uniform shrinkage (2%)
            i. Optimised cutting efficiencies from large area sheets with no need to consider orientation of sheet when cutting panels or shapes.
            ii. No distortion in curing of screen printing
        - Clear shape-in-place glue-free masking on both sides so that displays remain protected through fabrication, transit and installation processes.
    - Laser cutting - no sharp melt lip to be removed as an additional process, thereby minimising fabrication costs.
    - Engraving (laser, machine etc) – good contrast in engraving giving sharper image/design definition
    - Gluing - good for gluing and thickness tolerance gives excellent 45° mitred joints
    - Routering – no melting of routered edge
    - Digital or screen printing – outstanding thickness tolerance and good adhesion with inks and dyes

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In Service:
Available in clear, dense black and white for high end displays - optimum performance and quality in display applications.

- Superior chemical resistance against perfumes, essential oils and cleaning solutions.
- Excellent surface finish and gloss level ensuring consistently high quality.
- Good surface hardness and scratch resistance, acrylic being the hardest thermoplastic ensuring durability in use.
- Very good sheet flatness, due to less inherent stress, offering a lower tendency for warpage.
- Excellent weatherability/UV resistance
- Easy to clean

End of Life:

- 100% recyclable – acrylic is the only thermoplastic that can be fully recycled back to its original raw state.

3. 10 year guarantee
The normal Perspex® acrylic 10 year outdoor weathering guarantee applies to this range.

4. Masking
Perspex® CC acrylic sheet is supplied with clear plain (non-printed) 70 micron thermoformable polyethylene masking.

5. Table of Properties

Property	Test Method	Units	Values
General Properties			
Density	ISO 1183	-	1.19
Rockwell Hardness	ISO 2039-2	M scale	100
Water Absorption	ISO 62	%	0.3
Flammability	UL94	-	HB
Mechanical Properties			
Tensile Strength	ISO 527 (5 mm/min)	MPa	75
Elongation at Break	ISO 527 (5 mm/min)	%	>4
Flexural Strength	ISO 178 (2 mm/min)	MPa	>115
Flexural Modulus	ISO 178 (2 mm/min)	MPa	3200
Impact Strength – Charpy (unnotched)	ISO 179	$kJ.m^{-2}$	12
Izod Impact Strength	ISO 180/1A	$kJ.m^{-2}$	2
Thermal Properties			
Vicat Softening Point	ISO 306 A	°C	>105
Coefficient of Thermal Expansion (Linear)	ASTM D696	$X\ 10^{-5}.\ K^{-1}$	7.7
Optical Properties			
Light Transmission	ASTM D1003	% (3mm)	>92
Refractive Index	ISO 489 A	-	1.49
Electrical Properties			
Surface Resistivity	IEC 93	$\Omega.m^{-2}$	$>10^{14}$
Electrical Strength	IEC 243	kV.mm-1	15

Values quoted for the properties of Perspex® Continuous Cast acrylic sheet are the results of tests on representative samples and do not constitute specifications

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