

ASTERITE® Plus+

Technical Data Sheet

General

ASTERITE® Plus is a cross linked mineral filled cast acrylic sheet. The surface finish of ASTERITE® Plus sheet is produced during the casting of the sheet and is not post applied.

Masking

ASTERITE® Plus sheets are supplied with protective polyethylene film on both sides. The masking is not suitable for shape-in-place forming. It can be left in place to provide protection during simple fabrication operations such as cutting and drilling.

Thermoforming Recommendations for ASTERITE® Plus

1. ASTERITE® Plus has a higher density than standard ASTERITE® cast acrylic sheet. Therefore sheets with the same thickness of standard ASTERITE® acrylic sheets are correspondingly heavier i.e. by approx. 30%
2. Due to the increased thermal insulating properties of ASTERITE® Plus, slightly longer heating times are required than those used for standard ASTERITE® acrylic. The table below illustrates typical heating times:

Sheet thickness (mm)	Target Sheet Temperature (°C)	Heating Time (Minutes)
6	185	*38
8	185	*45

*Actual times will depend on oven capability

As an approximate rule the sheet will require approx. 10 minutes longer heating time than for standard ASTERITE® acrylic.

Similarly thermoforming machines should have their power settings reduced by approx. 20% to enable adequate heat penetration into the sheet without causing degradation of the sheet surface. This too will result in longer heating times.

If the sheet is too cold the desired shape will not be achieved, whilst over-heating can cause a reduction in the physical properties of the sheet. Extreme over-heating will cause degradation with blistering of the surface or splitting of the sheet during forming and must be avoided. It is recommended that some means of checking sheet, oven and mould temperatures is available in the moulding area.

3. For initial forming trials the following is recommended to gain experience of the product's handling characteristics:
 - Use moulds with gentle curvatures and small or no upstands.
 - Application of low pressure (force) during movement of the mould against the heated sheet when forming bath upstands.
 - Use of low vacuum levels to allow for gentle stretching of the sheet into the heated mould (ASTERITE® Plus retains heat for longer than standard ASTERITE® acrylic. Thus, slower forming of the final moulding allows for better shape definition with a lower chance of sheet splitting).
 - Use of mould temperatures similar to those used for standard ASTERITE® acrylic.
4. ASTERITE® Plus will take longer to cool than standard ASTERITE® acrylic. Therefore, care should be taken to ensure that the moulding has cooled sufficiently before removing from the mould.

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Table of Properties

Values quoted for properties of ASTERITE® Plus are results of tests on representative samples and do not constitute specifications.

Property	Test Method	Unit	Value
General			
Density	ISO 1183/A	g cm ⁻³	1.54
Water Absorption	ISO 62/1		
Barcol Hardness	(50mm ² Sample)	mg	29
Flammibility	EN159	-	60
	BS 476 Part 7	Class	3
	DIN 4102	-	B2
	NFP 92-507	-	M4
	ISO 11925	-	E
Thermal Properties			
Specific Heat		Cal / g °C	0.35
Vicat Softening Pint	ISO 306A	°C	> 105
Shaping Temperature (Optimum)		°C	185
Resistance to Thermal Cycling	EN 14688	-	No cracks, crazing or delamination
Mechanical Properties			
Tensile Strength	ISO R527	MPa	40
Flexural Strength	ISO 178	MPa	80
Flexural Modulus	ISO 178	MPa	3460
Impact Strength - Charpy (unnotched)	ISO 179	kJ M ⁻²	12

External Specifications

Perspex International Ltd is registered to ISO 9001 & ISO 14001.

ASTERITE® Acrylic Sheet

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