

LUCITE® SW

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Lucite® SW Technical Data Sheet

Masking

Lucite® SW is supplied with polyethylene protective film on both sides.

It is possible to mould with the thermoformable show face film in place (except for Velour colours). This helps to protect the surface during subsequent reinforcement and trimming. The back face masking is non-thermoformable and must be removed before heating.

Thermoforming Characteristics of Lucite® SW

Unlike conventional vacuum forming materials such as polystyrene, Lucite® SW does not have any distinct softening point, nor does it soften beyond a rubber-like consistency even when heated to the point of degradation, which will occur after prolonged heating at 165°C or shorter exposure to higher temperatures. Therefore relatively high forming and clamping pressures are required to mould Lucite® SW; hence it is essential to specify equipment which is sufficiently robust to withstand the forces involved.

The force available using vacuum is usually sufficient to form the main radii of the bath, and will often reproduce features such as integral sop dishes and waste outlets without the aid of additional pressure.

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Where very high definition is required, e.g. in designs which incorporate recessed grip handles, or some jet recesses, it may be necessary to apply greater local pressure using hand clamps or pneumatically operated rams.

Heating

The heating of Lucite® SW is the key to successful thermoforming. The recommended forming temperature is in the range 150-170°C and ovens should be run 10-15°C above this.

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.

Table of Properties

Values quoted for properties of Lucite® SW are the results of tests on representative samples and do not constitute specifications.

Property	Test Method	Units	Values
Density	ISO 1183/A	g cm ⁻³	1.20
Water Absorption	ISO 62/1 (50 mm ² sample)	mg	29
Rockwell Hardness	ISO 2039/2	M Scale	102
Colour Fastness - UV	ISO 4892-2	Grey Scale	5
Colour Fastness – Hot Water	EN 263	Grey Scale	5
Thermal Properties			
Specific Heat		cal / g °C	0.35
Vicat Softening Point	BS2782 : 120 C	°C	110
Deflection Temperature under Load	ISO 75 Method A	°C	102
Shaping Temperature (Optimum)		°C	150 - 170
Coefficient of Thermal Expansion - Linear	DIN 5372 (0 – 50 °C)	mm K ⁻¹	7.7 x 10 ⁻⁵
Mechanical Properties			
Tensile Strength	ISO R527 (5 mm/min)	MPa	> 70
Tensile Modulus	ISO R527 (5 mm/min)	MPa	3330
Flexural Strength	ISO 178 (2 mm/min)	MPa	129
Impact Strength – Charpy (unnotched)	ISO 179/1D	kJ m ⁻²	19

External Specifications

Lucite® SW complies with ISO 7823-1 and EN 263.

Lucite® SW is approved by the French AFNOR “NF” quality mark.

Lucite International Ltd is registered to ISO 9002.

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