



THERMOFORMING

Acrylic material, 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.

Before any pre-drying or thermoforming is carried out it is recommended that the protective film is removed as heating may result in it adhering to the sheet.

Pre-drying

It may be possible to dispense with pre-drying prior to thermoforming 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 between 75 – 80°C for 24 hours is adequate for sheets with a relatively high moisture content. Any thermoforming should be carried out as soon as possible after pre-drying, as re-absorption of moisture will occur.

Forming

When forming by 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. The 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 the evolution of flammable gases. Uniform heating over the whole sheet will help to achieve good results.

Stress can be generated by thermoforming at too low a temperature and poor mould design. Inherent stress can result in a more brittle component and will result in it being more susceptible to chemical attack. Inherent stress can be annealed by heating the component from room temperature slowly to 70 - 85°C. This temperature should be maintained for:

- 2.5 hours for thickness up to 4mm
- 3 hours for thicknesses of 5mm to 8mm
- 4 hours for thickness of 9mm to 10mm.

The component should then be cooled slowly (15°C per hour) to room temperature. Parts should not be removed until the part temperature falls below 50°C



Brett Martin Ltd. pursues a policy of continuous product development and reserves the right to amend specifications without notice.

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