

## PRODUCT GUIDE

Improved impact strength. Easy to cut and mould.



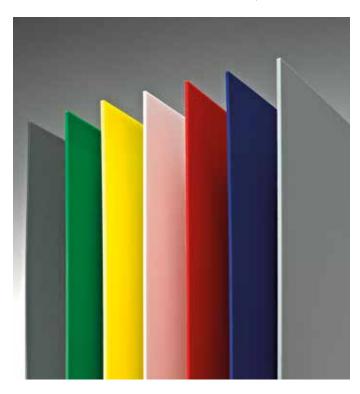




# POLYCASA® HIPS IS PERFECT FOR VACUUM FORMERS AND SCREEN PRINTERS WHO NEED TO TURN OUT HIGH QUALITY WORK ON A BUDGET.

It's also ideal for Point Of Sale producers wanting an 'easy print' surface in a range of colours, and great for demanding applications such as refrigerator liners, where a clean, bright appearance and food contact approval are vital.

All in all, **POLYCASA® HIPS** offers guaranteed trouble-free processing, enhanced impact resistance, and, last but not least, enormous cost-efficiency.



#### **PRODUCT IDENTIFICATION**

**POLYCASA® HIPS** is a rubber modified polystyrene sheet that has improved impact strength and is easy to mould and cut to size.

The product is available with either a matt finish on both sides or a matt finish on one side, and glossy surface on the other. The standard colour is white, but a range of other colours is available, in addition to colour-matching to order.

We can also deliver sheet for special applications. These include, but are not limited to:

- $\bullet$  UV treatment: improved colour stability and impact resistance.
- Environmental Stress Cracking Resistance (ESCR).
- Freon resistant grades for the refrigeration industry.
- Corona treatment: process to increase surface tension.

#### **CHARACTERISTICS**

- Superior surface quality.
- Excellent low temperature impact performance.
- Suitable for thermoforming.
- Smooth surface with a choice of finish: matt or glossy.
- Excellent for printing.
- Outstanding electrical insulation properties.
- Food contact approved non UV version.
- Meets fire safety standard UL standard 94HB.

#### **APPLICATIONS**

- Refrigerator liners.
- Sanitary ware.
- Bath panels.
- Shower wall panels.
- Vacuum formed parts.
- Screen printing substrate.
- Point Of Sale display units.
- Mobile home and caravan fittings.

#### **PRODUCT RANGE**

- Available with textured surface and a range of colours, subject to minimum order quantities.
- Patterns: smart and pinseal, leather and grain.
- Colours: white, opal white, yellow, red, green, blue, grey, black and silver, additional colours available on request.
- Sanitary colours: sanitary white, star white, pergamon and manhattan.
- The standard range of thickness is from 0.5 10.0 mm.

Please contact your local customer service centre for a complete product overview. For details see back of brochure.

### **TECHNICAL INFORMATION**

| GENERAL                                 |                |                                   |                              |                            |
|---|----------------|-----------------------------------|------------------------------|----------------------------|
| Property                                | Method         | Unit                              | POLYCASA® HIPS Glossy / Matt | POLYCASA® HIPS Matt / Matt |
| Density                                 | ISO 1183       | g/cm³                             | 1.05                         | 1.05                       |
| Burning resistance                      | UL standard 94 |                                   | 94 HB                        | 94 HB                      |
| MECHANICAL                              |                |                                   |                              |                            |
| Property                                | Method         | Unit                              | POLYCASA® HIPS Glossy / Matt | POLYCASA® HIPS Matt / Matt |
| Flexural modulus                        | ISO 178        | MPa                               | 1850                         | 1800                       |
| Flexural strength                       | SO 178         | MPa                               | 34                           | 32                         |
| Tensile modulus                         | ISO 527-2      | MPa                               | 1730                         | 1670                       |
| Tensile strength                        | ISO 527-2      | MPa                               | 24                           | 20                         |
| Elongation at break                     | ISO 527-2      | %                                 | 2.9                          | 42                         |
| Stress at break                         | ISO 527-2      | MPa                               | 18                           | 16                         |
| Ball indentation hardness               | ISO 2039-1     | N/mm²                             | 80                           | 80                         |
| THERMAL                                 |                |                                   |                              |                            |
| Property                                | Method         | Unit                              | POLYCASA® HIPS Glossy / Matt | POLYCASA® HIPS Matt / Matt |
| Vicat temperature (B 50)                | ISO 306        | °C                                | 92                           | 91                         |
| Heat defection temperature (A)          | ISO 75-2       | °C                                | 82                           | 84                         |
| Linear thermal expansion                | DIN 53752      | K <sup>-1</sup> x10 <sup>-5</sup> | 8                            | 8                          |
| Service temperature continuous use      | DIN 52612*     | °C                                | 70                           | 70                         |
| Thermal conductivity                    | ISO 11501*     | W/mK                              | 0.16                         | 0.16                       |
| Dimensional change on heating (4mm)     | ISO 15015      | %                                 | 5                            | 5.5                        |
| ELECTRICAL (raw material specification) |                |                                   |                              |                            |
| Property                                | Method         | Unit                              | POLYCASA® HIPS Glossy / Matt | POLYCASA® HIPS Matt / Matt |
| Volume resistivity                      | IEC 93         | Ω.cm                              | >1016                        | >1016                      |
| Surface resistivity                     | ICE 93         | Ω                                 | >1013                        | >1013                      |
| Dielectrical strength                   | IEC 243-1      | KV/mm                             | 155                          | 155                        |
| Dielectrical constant at 100Hz- 1 MHz   | IEC 250        |                                   | 2.5                          | 2.5                        |
| Dissipation factor at 100Hz- 1 MHz      | IEC 250        |                                   | >10-4                        | >10-4                      |
| IMPACT STRENGTHS                        |                |                                   |                              |                            |
| Property                                | Method         | Unit                              | POLYCASA® HIPS Glossy / Matt | POLYCASA® HIPS Matt / Matt |
| Charpy notched glossy side impacted     | ISO 179-1/1fA  | KJ/m <sup>2</sup>                 | 9                            | -                          |
| Charpy notched matt side impacted       | ISO 179-1/1fA  | KJ/m <sup>2</sup>                 | 6                            | 10                         |

Note: all mentioned data is based on extruded sheets in a thickness of 4 mm.

These technical data of our products are typical ones; the actually measured values are subject to production variations.





