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Polycasa offers an extensive range of plastic sheets to distribution and industrial partners, with an industry leading selection of polymers, thicknesses, sizes, colours, patterns, and coatings.



**Brands from Polycasa:**



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# Product Guide





POLYSTYRENE IS ONE OF THE MOST USEFUL SHEET MATERIALS.  
IT LOOKS GOOD WHILST GIVING TRUE VALUE FOR MONEY.

Polycasa® PS can be easily cut to size, allowing for a wide range of finished picture-frames to be produced from standard stock sheet. If you need to produce a cheap but effective sign for a short campaign, this sheet material is the perfect choice.

And you can easily achieve the very latest style in sanitary ware by choosing one of the wide range of textured finishes. Whatever the application, PS is the versatile material that delivers sparkling clarity, with light weight and good resistance to breakage.

PRODUCT IDENTIFICATION

PS is the brand name for Polycasa's extruded Crystal Polystyrene sheets, offering solutions for many indoor applications. As well as clear, anti-reflex and standard opal white, a variety of colours and designs are also available as a result of the extrusion process Polycasa can offer.

CHARACTERISTICS

- Good optical properties and a brilliant surface.
- High light transmission (min 88% wavelength: 500 nm, thickness 3 mm).
- Low price.
- Low density (1.05).
- Good chemical resistance and high rigidity.
- UV-stabilised — remains colour constant for many years when used indoors. (On special request Polycasa PS sheets can be produced without UV-stabilisation. They then meet all current food contact legislation and can be used in contact with foodstuffs.)
- Possibility of corona treatment - process to increase surface tension. (The result after corona treatment is a surface that is unchanged to the naked eye, but in fact is much more receptive to inks, coatings, and adhesives.)

Polycasa PS sheets also combine the following excellent properties:

- Excellent transparency.
- Good surface hardness.
- Good recyclability.
- Low water absorption.

APPLICATIONS

- Picture frames.
- Shower cabin doors (flat and curved).
- Indoor glazing.



PRODUCT RANGE

- Available as a flat, patterned or prismatic sheet.
- The range of patterns is extensive (subject to special conditions).
- Colours: clear, with or without anti-reflex features, and opal.
- Standard range of thickness is from 0.85 to 4.75 mm. (A thickness of 5mm is also available subject to special conditions.)
- Special thicknesses, colours and patterns can be produced to order, subject to conditions.

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

TECHNICAL INFORMATION

|                                         |             |                                   |                   |
|-----------------------------------------|-------------|-----------------------------------|-------------------|
| GENERAL                                 |             |                                   |                   |
| Property                                | Method      | Unit                              | PS                |
| Density                                 | ISO 1183    | g/cm³                             | 1.05              |
| Rockwell hardness                       | ISO 2039-1  | M scale                           | 150               |
|                                         |             |                                   |                   |
| OPTICAL                                 |             |                                   |                   |
| Property                                | Method      | Unit                              | PS                |
| Light transmission                      | DIN 5036-3  | %                                 | 89                |
| Refractive index                        | ISO 489     | n D <sub>20</sub>                 | 1.59              |
|                                         |             |                                   |                   |
| MECHANICAL                              |             |                                   |                   |
| Property                                | Method      | Unit                              | PS                |
| Flexural modulus                        | ISO 178     | MPa                               | 3450              |
| Flexural strength                       | ISO 178     | MPa                               | 85                |
| Tensile modulus                         | ISO 527-2   | MPa                               | 3400              |
| Tensile strength                        | ISO 527-2   | MPa                               | 45                |
| Elongation                              | ISO 527-2   | %                                 | 3                 |
|                                         |             |                                   |                   |
| THERMAL                                 |             |                                   |                   |
| Property                                | Method      | Unit                              | PS                |
| Vicat temperature (VST/B 50)            | ISO 306     | °C                                | 101               |
| Heat deflection temperature (A)         | ISO 75-2    | °C                                | 86                |
| Specific heat capacity                  | ASTM D-2766 | J/gK                              | 1.8               |
| Coefficient of linear thermal expansion | DIN 53752   | K <sup>-1</sup> x10 <sup>-5</sup> | 8                 |
| Thermal conductivity                    | DIN 52612   | W/mK                              | 0.16              |
| Degradation temperature                 |             | °C                                | >280              |
| Max. service temperature                |             | °C                                | 80                |
| Sheet forming temperature range         |             | °C                                | 130-170           |
|                                         |             |                                   |                   |
| IMPACT STRENGTHS                        |             |                                   |                   |
| Property                                | Method      | Unit                              | PS                |
| Charpy (notched)                        | ISO 179-1   | KJ/m²                             | -                 |
| Charpy (unnotched)                      | ISO 179-1   | KJ/m²                             | 6                 |
|                                         |             |                                   |                   |
| ELECTRICAL                              |             |                                   |                   |
| Property                                | Method      | Unit                              | POLYCASA PS       |
| Volume resistivity                      | DIN 53482   | Ω.cm                              | >10 <sup>14</sup> |
| Surface resistivity                     | DIN 53482   | Ω                                 | >10 <sup>14</sup> |

Note: All mentioned data is based on extruded sheets in a thickness of 4mm. The technical data of our products are typical ones; the actually measured values are subject to production variations.