

POLYCASA HIPS – STYRENIC SHEETS

1. PRODUCT IDENTIFICATION

POLYCASA HIPS is the brand name for extruded Impact Modified Polystyrene sheets made by POLYCASA.

The HIPS sheets typically have high impact strength and can be offered in a matt finish (FMM types) or in a gloss finish (FMG types) at the front side.

The high gloss effect is obtained through co-extrusion of a GPPS (general purpose polystyrene) layer on top of the HIPS. In addition to sanitary and standard colours, colour matching can be made to order.

2. CHARACTERISTICS

- Excellent low temperature high impact strength
- Smooth surface finish, either matt or glossy surface
- Smart and pin-seal emboss available
- Extremely suitable for thermoforming applications
- Good electrical properties

3. APPLICATIONS

- Displays
- Screen printing
- Refrigerators
- Sanitary ware
- Mobile homes and caravan fittings
- Packaging

4. FABRICATION AND FINISHING TECHNIQUES

POLYCASA HIPS sheets are easy to handle.

POLYCASA HIPS is suitable for sawing, drilling, gluing, screen printing, milling/engraving and thermoforming. More detailed information on these items can be found in our 'USER GUIDE'.

POLYCASA HIPS – STYRENIC SHEETS

TECHNICAL DATA

■ GENERAL

Property	Method	Unit	POLYCASA HIPS Glossy/Matt	POLYCASA HIPS Matt/Matt
Density	ISO 1183	g/cm ³	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	ISO 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/mm ²	80	80
Charpy notched glossy side impacted	ISO 179-1/1fA	KJ/m ²	9	-
Charpy notched matt side impacted	ISO 179-1/1fA	KJ/m ²	6	10

■ THERMAL

Property	Method	Unit	POLYCASA HIPS Glossy/Matt	POLYCASA HIPS Matt/Matt
Vicat temperature (B 50)	ISO 306	°C	92	91
Heat deflection temp. (A)	ISO 75-2	°C	82	84
Linear thermal expansion	DIN 53752	K ⁻¹ x10 ⁻⁵	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 (4 mm)	ISO 14631	%	5	5.5

■ ELECTRICAL (raw material specifications)

Property	Method	Unit	POLYCASA HIPS Glossy/Matt	POLYCASA HIPS Matt/Matt
Volume resistivity	IEC 93	Ωcm	>10 ¹⁶	>10 ¹⁶
Surface resistivity	IEC 93	Ω	>10 ¹³	>10 ¹³
Dielectrical strength	IEC 243-1	kV/mm	155	155
Dielectrical constant at 100Hz-1MHz	IEC 250		2.5	2.5
Dissipation factor at 100Hz-1MHz	IEC 250		10 ⁻⁴	10 ⁻⁴

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.