

FEATURES

- Strong, tough and rigid
- Low moisture absorption, this reduces likelihood of distortion or expansion during machining
- Excellent dimensional stability. (This is the degree to which a material maintains its original dimensions when subjected to changes in temperature and humidity).
- Hot water resistant
- Good chemical resistance
- Resistant to dilute acids, cleaning agents and many solvents
- Good sliding properties
- Low friction with good wear resistance

White Plastic Sheet, 500mm x 300mm x 20mm

RS Stock No.: 139-580



RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

Product Description

From RS Pro a range of high-quality Acetal solid plastic sheets natural in colour and available in a range of sizes and thicknesses

General Specifications

Form	Solid
Colour	White
Material	Acetal
Laminated	Yes
Laminated Material	Acrylic; Epoxy Resin; Fine Weave Cotton; Glass Fibre
Flammability Rating	UL 94 HB
Polymer Type	Copolymer
Finish	Mirror
Adhesive Backing	Yes
Applications	Components that are manufactured from this plastic include the following; Household appliances, Friction bearings, Gears, Tool supports, Housing parts, Rollers, Friction Strips, Plugs, Insulators, Agitators and kneading elements, Seals

Electrical Specifications

Specific Surface Resistance	$10^{14} \Omega$
Specific Volume Resistance	$10^{13} \Omega \cdot \text{cm}$
Dielectric Constant	2.9
Dielectric Loss Factor	0.0017tg
Breakdown Voltage	17kV/mm
Dielectric Strength 23°C, 50% r.h.	49kV/mm

Mechanical Specifications

Length	500mm
Width	300mm
Thickness	20mm
Density	1.41g/cm ³
Tensile Strength	67MPa
Hardness	M 86 Rockwell
Water absorption	0.5%
Thermal Conductivity	0.17W/m.K
Elongation	30%
Impact Strength	12kJM ⁻²
Modulus Of Elasticity	2800MPa
Flexural Strength	91MPa
Compression Strength	20MPa
Compression Modulus	2300MPa
Ball Indentation Hardness	165MPa
Thermal Expansion	5x10 ⁻⁵ k ⁻¹
Specific Heat	1.1J/(g.K)
Specific Gravity	1.38
Flexural Modulus	2600MPa
Friction Coefficient	0.54
Poisson Ratio	0.38kJM ⁻²

Operation Environment Specifications

Maximum Operating Temperature	100°C
Melting Point	255°C
Glass Transition Temperature	-60°C
Vicat Softening Point	65°C

Approvals

Compliance/Certifications	CE / UR / cUR
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ACETAL

Chemical Designation POM-C (Polyacetal (Copolymer))
Colour white opaque
Density 1.41 g/cm³

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1mm/min	2800	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	67	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	67	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	9	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	32	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	91	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	2600	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5mm/min, 10 N	20/35/68	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2300	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7.5J	n.b.	kJ/m ²	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7.5J	8	kJ/m ²	DIN EN ISO 179-1eA	
Ball indentation hardness		165	MPa	ISO 2039-1	6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		-60	°C	DIN EN ISO 11357	1)
Melting temperature		166	°C	DIN EN ISO 11357	
Service temperature	short term	140	°C		2)
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60°C, long.	13	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	14	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.4	J/(g·K)	ISO 22007-4:2008	
Thermal conductivity		0.39	W/(K·m)	ISO 22007-4:2008	
Electrical properties	parameter	value	unit	norm	comment
Specific surface resistance	Silver electrode, 23°C, 12% r.h.	10 ¹⁴	Ω	DIN IEC 60093	1)
Specific volume resistance	Silver electrode, 23°C, 12% r.h.	10 ¹³	Ω·cm	DIN IEC 60093	2)
Dielectric strength	23°C, 50% r.h.	49	kV/mm	ISO 60243-1	2)
Resistance to tracking (CTI)	Platin electrode, 23°C, 50% r.h., solvent A	600	V	DIN EN 60112	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.05 / 0.1	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)	-	-	2)
Resistance to weathering		-	-	-	3)
Flammability (UL94)	corresponding to	HB	-	DIN IEC 60695-11-10;	4)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

(1) Found in public sources.
(2) Found in public sources. Individual testing regarding application conditions is mandatory.

(1) Specimen in 20mm thickness
(2) Specimen in 1mm thickness

(1) Ø ca. 50mm, h=13mm
(2) (+) limited resistance
(3) - poor resistance
(4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.