

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 10mm

RS Stock No.: 680-498



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 Tolerance	10.2mm to 11.1mm
Density	1.41g/cm ³
Tensile Strength	60MPa
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) (1) For tensile test: specimen type 1b
Tensile strength	50mm/min	67	MPa	DIN EN ISO 527-2	(2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	67	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield	50mm/min	9	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break	50mm/min	32	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	91	MPa	DIN EN ISO 178	n.b. = not broken
Modulus of elasticity (flexural test)	2mm/min, 10 N	2600	MPa	DIN EN ISO 178	(6) Specimen in 4mm thickness
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) (1) Found in public sources.
Melting temperature		166	°C	DIN EN ISO 11357	(2) Found in public sources.
Service temperature	short term	140	°C		2) Individual testing regarding application conditions is mandatory.
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) (1) Specimen in 20mm thickness
Specific volume resistance	Silver electrode, 23°C, 12% r.h.	10 ¹³	Ω·cm	DIN IEC 60093	(2) Specimen in 1mm thickness
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) (1) Ø ca. 50mm, h=13mm
Resistance to hot water/ bases		(+)	-		2) (+) limited resistance
Resistance to weathering		-	-		3) - poor resistance
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	4) (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.