

FEATURES

- Extremely high chemical resistance
- Hot water resistant
- High temperature performance a high melting point of -200 to +260°C, short-term up to 300°C
- Excellent sliding properties with low coefficient of friction
- Non-stick surface, no materials will stick to it. PTFE is also difficult to bond or weld
- High coefficient of thermal expansion (The ratio that a material expands in accordance with changes in temperature)
- Relatively low strength and rigidity
- Excellent UV and weather resistance
- Good electrical insulation properties

Opaque Plastic Sheet, 600mm x 300mm x 1.6mm

RS Stock No.: 680-662



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 PTFE solid plastic sheets available in a range of sizes and thicknesses.

General Specifications

Form	Solid
Colour	Opaque
Material	PTFE
Laminated	Yes
Laminated Material	Acrylic; Epoxy Resin; Fine Weave Cotton; Glass Fibre
Flammability Rating	UL 94 V-0
Polymer Type	Copolymer
Finish	Mirror
Adhesive Backing	Yes
Applications	Components that can be manufactured from this plastic include the following: Slide bearings and runners, Pump housings and parts, Valve seats, Tank linings, Roller coverings, Pipe linings, Filter housings, Etching plates, High frequency insulation, 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	600mm
Width	300mm
Thickness	1.6mm
Density	2.18 to 2.21g/cm ³
Tensile Strength	25MPa
Hardness	55 Shore D
Water absorption	0.3%
Thermal Conductivity	0.17W/m.K
Elongation	50%
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	260°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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PTFE

Chemical Designation PTFE (Polytetrafluorethylene) **Colour** white opaque **Density** 2.15 g/cm³

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Tensile strength		22	MPa	ASTMD 4894	1) (1) Tested on extruded and machined specimen
Elongation at break		220	%	ASTMD 4894	2) (2) Tested on extruded and machined specimen
Compression strength	1% strain	5	MPa	ASTMD 695	(3)
Shore hardness	Shore D	55		ASTMD 2240	3)
<i>Thermal properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Glass transition temperature		- 20	°C	DIN 53765	1) (1) Found in public sources.
Service temperature	short term	260	°C	-	2) (2) Found in public sources. Individual testing regarding application conditions is mandatory.
Service temperature	long term	260	°C	-	
Thermal expansion (CLTE)	23-100°C, long.	13	10 ⁻⁵ K ⁻¹	ASTMD 696	
Thermal conductivity		0.20	W/(K*m)	ASTMC 177	
<i>Electrical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Specific surface resistance		10 ¹⁶	Ω	ASTMD 257	1) (1) Without defects
Specific volume resistance		10 ¹⁷	Ω*cm	ASTMD 257	
Dielectric strength	In air, 0.125mm thick	80	kV/mm	ASTMD 149	
Dielectric constant	50-109Hz	2.1		ASTMD 150	
<i>Other properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Water absorption	23°C	< 0.01	%	ASTMD 570	(1) Corresponding means no listing at UL (yellow card).
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	1) The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.