FEATURES

- Good rigidity and hardness
- Good slide and low frictional properties
- Good abrasion and impact resistance
- Outstanding wear resistance
- Resistant to many chemicals, oils, greases and fuels
- Very good temperature resistance
- Good thermal dimensional stability
- Electrically insulating
- Weldable and bondable

White Plastic Sheet, 1000mm x 500mm x 5mm

RS Stock No.: 704-8144

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 natural coloured Nylon 66 solid plastic sheets available in a range of sizes and thicknesses

General Specifications

Form	Solid
Colour	White
Material	Nylon
Laminated	Yes
Laminated Material	Acrylic; Epoxy Resin; Fine Weave Cotton; Glass Fibre
Flammability Rating	UL HB
Polymer Type	Copolymer, Homopolymer
Finish	Clear
Adhesive Backing	Yes
Applications	Gear wheels and Cam discs, Friction strips and bearings, Bushes and spindle nuts, Piston guides, Castors, Impact plates and damping plates, Conveyor screws, Rope pulleys, Plug parts

Electrical Specifications

Specific Surface Resistance	10^{14} Ω
Specific Volume Resistance	10^{14} Ω.cm
Dielectric Constant	2.9
Dielectric Loss Factor	0.0017tg
Breakdown Voltage	38kV/mm

Mechanical Specifications

Length	1000mm
Width	500mm
Thickness	5mm
Density	1.14g/cm^3
Tensile Strength	60 (Wet) MPa, 80 (Dry) MPa
Hardness	R 118 Rockwell
Water absorption	8.5%
Thermal Conductivity	0.17W/m.K
Elongation	150%
Impact Strength	12kJM^{-2}
Modulus Of Elasticity	3400MPa
Flexural Strength	175MPa
Compression Strength	23MPa
Compression Modulus	3400MPa
Ball Indentation Hardness	253MPa
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	170°C
Melting Point	255°C
Glass Transition Temperature	150°C
Vicat Softening Point	65°C

Approvals

Compliance/Certifications	CE / UR / cUR
Standards Met	DIN 50014

Nylon 66 natural

Chemical Designation
PA 66 (Polyamide 66)

Colour
ivory opaque

Density
1.15 g/cm^3

Data generated directly after machining (standard climate Germany).

Mechanical properties	parameter	value	unit	norm		comment
Modulus of elasticity (tensile test)	1mm/min	3500	MPa	DIN EN ISO 527-2	1)	(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
Tensile strength	50mm/min	85	MPa	DIN EN ISO 527-2		
Tensile strength at yield	50mm/min	84	MPa	DIN EN ISO 527-2		
Elongation at yield	50mm/min	7	%	DIN EN ISO 527-2		
Elongation at break	50mm/min	70	%	DIN EN ISO 527-2		
Flexural strength	2mm/min, 10 N	110	MPa	DIN EN ISO 178	2)	
Modulus of elasticity (flexural test)	2mm/min, 10 N	3100	MPa	DIN EN ISO 178		
Compression strength	1% / 2% / 5% 5mm/min, 10 N	20/35/81	MPa	EN ISO 604	3)	
Compression modulus	5mm/min, 10 N	2700	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	5	kJ/m^2	DIN EN ISO 179-1eA		
Ball indentation hardness		175	MPa	ISO 2039-1	6)	

Thermal properties	parameter	value	unit	norm		comment
Glass transition temperature		47	°C	DIN EN ISO 11357	1)	(1) Found in public sources. (2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		258	°C	DIN EN ISO 11357		
Service temperature	short term	170	°C		2)	
Service temperature	long term	100	°C			
Thermal expansion (CLTE)	23-60°C, long.	11	10^{-5} K^{-1}	DIN EN ISO 11359-1;2		
Thermal expansion (CLTE)	23-100°C, long.	12	10^{-5} K^{-1}	DIN EN ISO 11359-1;2		
Specific heat		1.5	J/(g*K)	ISO 22007-4:2008		
Thermal conductivity		0.36	W/(K*m)	ISO 22007-4:2008		

Electrical properties	parameter	value	unit	norm		comment
Specific surface resistance		10^{14}	Ω	DIN IEC 60093		
Specific volume resistance		10^{14}	Ω*cm	DIN IEC 60093		

Other properties	parameter	value	unit	norm		comment
Water absorption	24h / 96h (23°C)	0.2 / 0.4	%	DIN EN ISO 62	1)	(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.
Resistance to hot water/ bases		(+)		-	2)	
Resistance to weathering		-		-	3)	
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	4)	