

TECARAN ABS grey - Stock Shapes (rods, plates, tubes)

Chemical Designation

ABS (Acrylnitrile-butadiene-styrene copolymer)

Colour

grey opaque

Density

1.04 g/cm³

Main features

- electrically insulating
- high stiffness
- good chemical resistance
- low density
- good damping
- high toughness
- low moisture absorption
- good weldable and bondable

Target Industries

- automotive industry
- electronics
- food technology
- mechanical engineering

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50mm/min	32	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
Modulus of elasticity (tensile test)	1mm/min	1700	MPa	DIN EN ISO 527-2	(2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	32	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield (tensile test)	50mm/min	3	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break (tensile test)	50mm/min	49	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	49	MPa	DIN EN ISO 178	n.b. = not broken
Modulus of elasticity (flexural test)	2mm/min, 10 N	1600	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5mm/min, 10 N	15/26/46	MPa	EN ISO 604	(3)
Compression modulus	5mm/min, 10 N	1400	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	34	kJ/m ²	DIN EN ISO 179-1eA	
Shore hardness	D	75		DIN EN ISO 868	
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		104	°C	DIN EN ISO 11357	(1) Found in public sources.
Service temperature	short term	100	°C		(2) Found in public sources.
Service temperature	long term	75	°C		Individual testing regarding application conditions is mandatory.
Electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ¹⁴	Ω	-	
volume resistivity		10 ¹⁴	Ω*cm	-	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.07 / 0.2	%	DIN EN ISO 62	(1) Ø ca. 50mm, h=13mm
Resistance to hot water/ bases		-	-		(2) - poor resistance
Resistance to weathering		-	-		(3) 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.
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	(3)

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