

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	1) (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	2) n.b. = not broken
Modulus of elasticity (flexural test)	2mm/min, 10 N	1600	MPa	DIN EN ISO 178	(6) Specimen in 4mm thickness
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	
Ball indentation hardness		74	MPa	ISO 2039-1	6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		104	°C	DIN EN ISO 11357	1) (1) Found in public sources.
Service temperature	short term	100	°C		2) (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	DIN IEC 60093	
volume resistivity		10 ¹⁴	Ω*cm	DIN IEC 60093	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.07 / 0.2	%	DIN EN ISO 62	1) (1) Ø ca. 50mm, h=13mm
Resistance to hot water/ bases		-	-		2) (2) - poor resistance
Resistance to weathering		-	-		(3) Corresponding means no listing at UL (yellow card).
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	3) The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.

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