

### Chemical Designation

ABS (Acrylnitrile-butadiene-styrene copolymer)

### Colour

grey opaque

### Density

1.04 g/cm<sup>3</sup>

### 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
- mechanical engineering

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
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	
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 <sup>2</sup>	DIN EN ISO 179-1eU	(5)
Notched impact strength (Charpy)	max. 7,5J	34	kJ/m <sup>2</sup>	DIN EN ISO 179-1eA	
Shore hardness	D	75		DIN EN ISO 868	
<i>Thermal properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Glass transition temperature		104	°C	DIN EN ISO 11357	(1)
Service temperature	short term	100	°C		(2)
Service temperature	long term	75	°C		Individual testing regarding application conditions is mandatory.
<i>Electrical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
surface resistivity		10 <sup>14</sup>	Ω	-	
volume resistivity		10 <sup>14</sup>	Ω*cm	-	
<i>Other properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Water absorption	24h / 96h (23°C)	0.07 / 0.2	%	DIN EN ISO 62	(1)
Resistance to hot water/ bases		-	-	-	(2)
Resistance to weathering		-	-	-	(3)
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.

