

## TECARAN ABS - Stock Shapes

### Chemical Designation

ABS (Acrylonitrile-butadiene-styrene copolymer)

### Colour

beige opaque

### Density

1.02 g/cm<sup>3</sup>

### Main features

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

### Target Industries

- home appliances
- automotive industry
- fixture construction
- food engineering
- electronics
- medical technology

Mechanical properties	condition	value		test method	comment
Modulus of elasticity (tensile test)	@ 73 °F	350,000	psi	ASTM D 638	(1) Data obtained from public source
Tensile strength at yield	@ 73 °F	5,700	psi	ASTM D 638	(2) Injection molded data
Tensile strength at break	@ 73 °F	5,100	psi	ASTM D 638	(3) Injection molded data (4) Injection molded data
Elongation at yield	@ 73 °F	2.5	%	ASTM D 638	
Elongation at break	@ 73 °F	20	%	ASTM D 638	
Flexural strength	@ 73 °F	8,300	psi	ASTM D 790	
Modulus of elasticity (flexural test)	@ 73 °F	265,000	psi	ASTM D 790	
Compression strength	@ 73 °F, 10% strain	6,000	psi	ASTM D 695	
Compression strength	@ 73 °F, 1% strain	1,080	psi	ASTM D 695	
Compression modulus	@ 73 °F	176,000	psi	ASTM D 695	
Impact strength (Izod)	@ 73 °F	6.6	ft-lbs/in	ASTM D 256	
Rockwell hardness	@ 73 °F R Scale	101		ASTM D 785	
Coefficient of friction	Dynamic, 40 psi, 50 fpm	0.35		ASTM D 3702	2)
Coefficient of friction	Static	0.19 - 0.21		ASTM D 3702	3)
Wear (K) factor	Against Steel, 40 psi, 50 fpm	350*10 <sup>-7</sup>	in <sup>3</sup> -min/ft-lbs-hr	ASTM D 3702	4)
Thermal properties	condition	value		test method	comment
Vicat softening point		224	°F	-	1) (1) Injection molded data
Deflection temperature	@264 psi	177	°F	ASTM D 648	2) (2) Injection molded data
Deflection temperature	@ 66 psi	200	°F	ASTM D 648	3) (3) Injection molded data
Service temperature	Intermittent	210	°F	-	4) (4) per UL746B
Service temperature	Long Term	160	°F	-	5) (5) Injection molded data
Thermal expansion (CLTE)	-40F to 100F	5.6*10 <sup>-5</sup>	in/in/°F	ASTM D 696	
Electrical properties	condition	value		test method	comment
Specific surface resistance		1.0*10 <sup>14</sup>	Ω/square	ASTM D 257	1) (1) Data obtained from public source
Volume resistivity		1*10 <sup>15</sup>	Ω*cm	ASTM D 257	2) (2) Injection molded data
Dielectric strength		450	V/mil	ASTM D 149	3) (3) Injection molded data
Dissipation factor	@ 60 Hz, 73 °F	0.02		ASTM D 150	4) (4) Injection molded data
Dielectric constant	@ 60 Hz, 73 °F, 50% RH	3.3		ASTM D 150	5) (5) Injection molded data
Other properties	condition	value		test method	comment
Moisture absorption	@ saturation, 73 °F	0.70	%	ASTM D 570	(1) Injection molded data
Moisture absorption	@ 24 hrs, 73 °F	0.13	%	ASTM D 570	(1.5mm thick)
Flammability (UL94)		HB		-	1)

→ Resin specification:  
ASTM D4673 ABS0220B43630  
Shapes specification:  
NONE

This information reflects the current state of our knowledge and is intended only to assist and advise. It is given without obligation or liability. It does not assure or guarantee chemical resistance, quality of products or their suitability in any legally binding way. Values are not minimum or maximum values, but guidelines that can be used for comparative purposes in material selection. They are within the normal range of product properties and do not represent guaranteed property values. Testing under individual application circumstances is always recommended. Data is obtained from extruded shapes material unless otherwise noted. References to FDA compliance refer to the resins from which the products were made unless otherwise noted. All trade and patent rights should be observed. All rights reserved. Data sheet values are subject to periodic review, the most recent update can be found at [www.ensinger-inc.com](http://www.ensinger-inc.com).