

# ABS

Acrylonitrile-Butadiene-Styrene Copolymer

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% by w	Content
> 97 %	ABS
< 3 %	Additives

Physical	Test Method	Nominal Value (SI)
Specific Gravity	ASTM D-792	$1.05 \frac{g}{cm^3}$
--	ISO 1183	$1.05 \frac{g}{cm^3}$
Melt Mass-Flow Rate (MFR)		
200°C/5.0 kg	ASTM D-1238	$\frac{1.6 g}{10 min}$
220°C/10.0 kg	ASTM D-1238	$\frac{22 g}{10 min}$
Melt Volume-Flow Rate (MVR) (220°C/10.0 kg)	ISO 1133	$\frac{22 cm^3}{10 min}$
<b>Mechanical</b>		
Tensile Stress		
Yield	ISO 527-2/50	54.0 MPa
Break	ISO 527-2/50	37.0 MPa
3.00 mm	ASTM D-638	45.1 MPa
Tensile Elongation		
Break, 3.00 mm	ASTM D-638	25 %
Break	ISO 527-2/50	20 %

Flexural Modulus		
6.00 mm	ASTM D-790	2650 MPa
--	ISO 178	2200 MPa
Flexural Strength		
6.00 mm	ASTM D-790	77.5 MPa
--	ISO 178	76.0 MPa
<b>Impact</b>		
Charpy Notched Impact Strength	ISO 179	$20 \frac{kJ}{m^2}$
Charpy Unnotched Impact Strength	ISO 179	No Break
Notched Izod Impact		
23°C, 3.00 mm	ASTM D-256	$210 \frac{J}{m}$
23°C, 6.00 mm	ASTM D-256	$180 \frac{J}{m}$
--	ISO 180/1A	$18 \frac{kJ}{m^2}$
Unnotched Izod Impact Strength	ISO 180/1A	$60 \frac{kJ}{m^2}$
<b>Hardness</b>		
Rockwell Hardness (R-Scale)	ASTM D-785	116
Ball Indentation Hardness (H 358/30)	ISO 2039-1	110 MPa
<b>Thermal</b>		
Deflection Temperature Under Load		
1.8 MPa, Unannealed	ASTM D-648	85 °C
1.8 MPa, Unannealed	ISO 75-2/A	88 °C
1.8 MPa, Annealed	ASTM D-648	95 °C

1.8 MPa, Annealed	ISO 75-2/A	98 °C
Vicat Softening Temperature		
--	ASTM D-1525	105 °C
--	ISO 306/A50	104 °C
--	ISO 306/B50	100 °C
Thermal Conductivity	ASTM C-177	0.20 W/m/K