

## TYPICAL PROPERTIES OF ACRYLONITE-BUTADIENE-STYRE AND STYRENE-ACRYLONITRILE COPOLYMER

ASTM or UL Test	Property	— STANDARD ABS GRADES —	
		Medium Impact	Flame Retardant
PHYSICAL			
D792	Specific gravity	1.04-1.06	1.19-1.22
D792	Specific volume (in <sup>3</sup> /lb)	28	—
MECHANICAL			
D638	Tensile strength (psi)	6,000- 7,500	5,500- 10,000
D638	Elongation (%)	5-25	5-25
D638	Tensile modulus (10 <sup>5</sup> psi)	3.6-3.8	3.2-3.7
D790	Flexural strength (psi)	11,500	9,000- 12,250
D790	Flexural modulus (10 <sup>5</sup> psi)	3.6-4.0	3.0-3.4
D256	Impact strength, Izod (ft-lb/in of notch)	4.0-5.5	4.0-13.0
D785	Hardness, Rockwell R	107	90-117
THERMAL			
D696	Coefficient of thermal expansion (10 <sup>-5</sup> in/in-°F)	4.6	3.7-4.6
D648	Deflection temp.† *(°F)		
	At 264 psi	184	180-220
	At 66 psi	201	198-238
UL 94	Flammability rating	HB	V-0 to V-1§
ELECTRICAL			
D149	Dielectric strength (V/mil)		
	Short time, 1/8-in thk	350-500	400+
D495	Arc resistance (s)	50-85	20-60

\*Density has a marked effect. †Unannealed. §0.060-in thick samples.

## TYPICAL PROPERTIES OF ACRYLONITE-BUTADIENE-STYRE AND STYRENE-ACRYLONITRILE COPOLYMER

ISO or UL Test	Property	— STANDARD ABS GRADES —	— SPECIAL-PURPOSE ABS GRADES —
		Medium Impact	Flame Retardant
PHYSICAL			
ISO1183	Specific gravity	1.04-1.06	1.19-1.22
ISO1183	Specific volume (cm <sup>3</sup> /g)	1.01	—
MECHANICAL			
ISO527	Tensile strength (MPa)	41-52	38-69
ISO527	Elongation (%)	5-25	5-25
ISO527	Tensile modulus (MPa)	2,482-	2,206-
		2,620	2,551
ISO178	Flexural strength (MPa)	79	62-84
ISO178	Flexural modulus (10 <sup>3</sup> MPa)	2.48-2.76	2.07-2.34
ISO180	Notched izod impact strength (J/m)	214-294	214-694
ISO2039	Hardness, Rockwell R	107	90-117
THERMAL			
ISO11359	Coefficient of thermal expansion (10 <sup>-4</sup> m/m/°C)	0.83	0.67-0.92
ISO75	Deflection temp.† *(°C)		
	At 1.80 MPa	84	82-104
	At 0.45 MPa	94	92-114
UL 94	Flammability rating	HB	V-0 to V-1§
ELECTRICAL			
IEC243	Dielectric strength (kV/mm)		
	Short time, 3 mm thk	13.7-19.7	15.7+
ASTM D495	Arc resistance (s)	50-85	20-60

\*Density has a marked effect. †Unannealed. §25-mm thick samples.