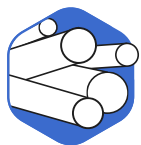


Goodfellow

innovation, delivered



Polymer



Rod

Polyacrylonitrile-butadiene-styrene Rod 10mm dia natural

ABS

Product Code: AB30-RD-000110

Diameter: 10mm

Colour: Natural

Length: 10mm - 500mm

Polyacrylonitrile-butadiene-styrene

Acrylonitrile butadiene styrene. ABS is amorphous and therefore has no true melting point. ABS is a terpolymer made by polymerizing styrene and acrylonitrile in the presence of polybutadiene.

Material Properties for Polyacrylonitrile-butadiene-styrene

Chemical Resistance

Acids - concentrated: **Good-Poor**

Acids - dilute: **Good**

Alcohols: **Good-Poor**

Alkalis: **Good**

Aromatic hydrocarbons: **Poor**

Greases and Oils: **Good**

Halogenated Hydrocarbons: **Poor**

Halogens: **Poor**

Ketones: **Poor**

Electrical Properties

Dielectric constant @1MHz: **3 - 3**

Dielectric strength (kV mm⁻¹): **20.0 - 25.0**

Dissipation factor @ 1MHz: **0.0200**

Volume resistivity (Ohmcm): **>10¹⁵**

Mechanical Properties

Coefficient of friction: **0.50**

Elongation at break (%): **45.0**

Hardness - Rockwell: **R100-110**

Izod impact strength (J m⁻¹): **200.0 - 400.0**

Poisson's ratio: **0.350**

Tensile modulus (GPa): **2.10 - 2.40**

Tensile strength (MPa): **41.00 - 45.00**

Physical Properties

Density (g cm⁻³): **1.050**

Flammability: **HB@1.5mm**

Limiting oxygen index (%): **19**

Radiation resistance: **Fair**

Resistance to Ultra-violet: **Poor**

Water absorption - over 24 hours (%): **0.300 - 0.700**

Thermal Properties

Coefficient of thermal expansion ($\times 10^{-6} \text{ K}^{-1}$): **80.000**

Heat-deflection temperature - 0.45MPa (C): **98**

Heat-deflection temperature - 1.8MPa (C): **89.0**

Thermal conductivity ($\text{W m}^{-1} \text{ K}^{-1}$): **0.17 @23°C**

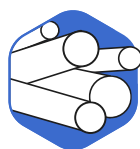
Upper working temperature (C): **70 - 100**

Related Product Data

Form

Rod

A straight length of circular section material.



Tolerances

Diameter:

Diameter: $\leq 10\text{mm}$ $\pm 10\%$

Diameter: $> 10\text{mm}$ $\pm 5\%$

Length (Round)

Length: $< 100\text{mm}$ $\pm 1\text{mm}$

Length: $\geq 100\text{mm}$ $+5\% / -1\%$

Material

ABS - Acrylonitrile Butadiene Styrene

Acrylonitrile butadiene styrene. ABS is amorphous and therefore has no true melting point. ABS is a terpolymer made by polymerizing styrene and acrylonitrile in the presence of polybutadiene.

Type

Polymer

A carbon based material which is built up from a series of smaller units (monomers). The choice of the monomers and the final molecular weight (i.e. size) of the polymer govern the mechanical and physical properties of the resultant



polymer.