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): $>10^{15}$

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 (x10^{-6} K^{-1}): 80.000

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

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

Thermal conductivity (W m^{-1} 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: =<10mm ±10%

Diameter: >10mm ±5%

Length (Round)

Length: <100mm ±1mm

Length: >=100mm +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.