Torlon® 4435 / Bearing Grade Polyamide/imide Rod

Grade: Torlon® 4435 / Bearing Grade
Formula: PAI
Diameter: 12.7mm
Length: 500mm
UOM Code: 042-745-24
SKU: 1000005884
Product Code: AM31-RD-000181

Material Properties for Polymers

Chemical Resistance

Element	Value
Acids - concentrated	Fair-Poor
Acids - dilute	Fair
Alcohols	Good-Poor
Alkalis	Poor
Aromatic hydrocarbons	Good
Greases and Oils	Good
Halogenated Hydrocarbons	Good-Poor
Halogens	Good-Poor
Ketones	Good

Electrical Properties

Element	Value
Dielectric constant @1MHz	3.9-5.4
Dissipation factor @ 1MHz	0.03-0.042
Dielectric strength(kV mm?¹)	23at 1mm
Surface resistivity(Ohm/sq)	8-50 x 10¹?
Volume resistivity(Ohmcm)	0.08-2 x 10¹?

Physical Properties

Element	Value
Flammability	V0

Element	Value
Radiation resistance	Good
Resistance to Ultra-violet	Good
Limiting oxygen index(%)	44-45
Water absorption - equilibrium(%)	03-Apr
Water absorption - over 24 hours(%)	0.3
Density(gcm?³)	1.42-1.46

Mechanical Properties

Element	Value
Hardness - Rockwell	E72-86
Poisson's ratio	0.38
Elongation at break(%)	Jul-15
Tensile modulus(GPa)	4.5-6.8
Izod impact strength(J m?¹)	60-140- notched
Tensile strength(MPa)	110-190

Thermal Properties

Element	Value
Heat-deflection temperature - 1.8MPa(C)	278-9
Lower working temperature(C)	-200
Upper working temperature(C)	200-260
Specific heat(J K?¹ kg?¹)	1000
Thermal conductivity(W m?¹ K?¹)	0.26-0.54@23°C
Coefficient of thermal expansion(x10?? K?¹)	25-31

Pultrusions

Element	Value
Compressive strength(MPa)	170-220