

Vectra® A Liquid Crystal Polyester Fiber

Formula: Vectra® A

Length: 500m

Filament Diameter: 0.023mm

Number Of Filaments: 300

Tex Number: 167

UOM Code: 025-959-44

SKU: 1000003056-group

Product Code: ES31-FB-000117

Material Properties for Polymers

Chemical Resistance

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

Mechanical Properties

Element	Value
Coefficient of friction	0.12-0.14
Hardness - Rockwell	M60
Elongation at break(%)	3
Tensile modulus(GPa)	02-Oct
Izod impact strength(J m ²¹)	520
Abrasive resistance - ASTM D1044(mg/1000 cycles)	56
Tensile strength(MPa)	55-165

Electrical Properties

Element	Value
Dielectric constant @ 1MHz	3
Dissipation factor @ 1MHz	0.02
Dielectric strength(kV mm ⁻¹)	47@1.5mm
Surface resistivity(Ohm/sq)	4x10 ¹³
Volume resistivity(Ohmcm)	10 ¹⁷

Physical Properties

Element	Value
Flammability	V0 @ 0.8mm
Radiation resistance	Good
Resistance to Ultra-violet	Good
Limiting oxygen index(%)	35
Water absorption - equilibrium(%)	0.03
Water absorption - over 24 hours(%)	0.02
Density(gcm ⁻³)	1.4

Thermal Properties

Element	Value
Heat-deflection temperature - 0.45MPa(C)	220
Heat-deflection temperature - 1.8MPa(C)	180
Lower working temperature(C)	-200
Upper working temperature(C)	200-220
Specific heat(J K ⁻¹ kg ⁻¹)	1000
Thermal conductivity(W m ⁻¹ K ⁻¹)	0.18@23°C
Coefficient of thermal expansion(x10 ⁻⁵ K ⁻¹)	-80

Pultrusions

Element	Value
Compressive strength(MPa)	70