

Additive Free Polymer PS Disk

Grade: Additive Free Polymer

Formula: PS

Thickness: 0.05mm

Diameter: 25mm

Structure: Biaxially Oriented

Transparency: Clear/Transparent

UOM Code: 175-032-02

SKU: 1000065318-group

Product Code: ST31-FM-000150

Material Properties for Polymers

Physical Properties

Element	Value
Abbe number	30.8
Flammability	HB
Radiation resistance	Good
Refractive index	1.59-1.6
Resistance to Ultra-violet	Poor
Limiting oxygen index(%)	19
Water absorption - over 24 hours(%)	0.4
Density(gcm ³)	1.05

Chemical Resistance

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

Electrical Properties

Element	Value
Dielectric constant @ 1MHz	2.4-3.1
Dissipation factor @ 1kHz	0.0002
Dielectric strength(kV mm ⁻¹)	20
Volume resistivity(Ohmcm)	>10 ¹²

Mechanical Properties

Element	Value
Hardness - Rockwell	M60-90
Poisson's ratio	0.35
Elongation at break(%)	1.6
Tensile modulus(GPa)	2.3-4.1
Izod impact strength(J m ⁻¹)	19-24
Tensile strength(MPa)	30-100

Thermal Properties

Element	Value
Heat-deflection temperature - 0.45MPa(C)	90
Heat-deflection temperature - 1.8MPa(C)	80
Upper working temperature(C)	50-95
Specific heat(J K ⁻¹ kg ⁻¹)	1200
Thermal conductivity(W m ⁻¹ K ⁻¹)	0.1-0.13@23°C
Coefficient of thermal expansion(x10 ⁻⁶ K ⁻¹)	30-210