Product Data Sheet

Torlon* 4203

Torlon* 4203 extruded PAI offers excellent compressive strength and the highest elongation of the Torlon grades. It also provides electrical insulation and exceptional impact strength. This grade is commonly used for electrical connectors and insulators due to its high dielectric strength.

Torlon is the highest performing melt processable plastic. It has superior resistance to elevated temperatures. It is capable of performing under severe stress conditions at continuous temperatures to 500°F (260°C). Parts machined from Torlon stock shapes provide greater compressive strength and higher impact resistance than most advanced engineering plastics. Its extremely low coefficient of linear thermal expansion and high creep resistance deliver excellent dimensional stability over its entire use range. Torlon is an amorphous material with a Tg (glass transition temperature) of 537°F (280°C).

Quadrant EPP's extruded Torlon stock shapes are post-cured using the latest technology and procedures developed jointly by Amoco Performance Products and Quadrant eliminating the need for additional curing by the end user in most situations. A post-curing cycle is recommended for components fabricated from extruded shapes where optimization of chemical resistance and/or wear performance is required.

Property	Method	Unit	Value
Mechanical			
Specific Gravity, 73°F	D792		1.41
Tensile Strength, 73°F	D638	psi	18,000
Tensile Modulus of Elasticity, 73°F	D638	psi	600,000
Elongation, 73°F	D638	%	10.0
Flexural Strength, 73°F	D790	psi	24,000
Flexural Modulus, 73°F	D790	psi	600,000
Shear Strength, 73°F	D732	psi	16,000
Compressive Strength, 10% Def., 73°F	D695	psi	24,000
Compressive Modulus of Elasticity, 73°F	D695	psi	475,000
Hardness, Rockwell, Scale as noted, 73°F	D785		E80 (M120)
Izod Impact (notched), 73°F	D256 Type A	ft-lb/in	2.0
Coefficient of Friction (Dry vs Steel) Dynamic	PTM55007		0.35
Limiting PV, 73°F	PTM55007	psi-fpm	12,500
k (wear) factor	PTM55010		50
Thermal			
Coefficient of linear Thermal Expansion	E-831(TMA)	in/in/°F	1.70 x 10^-5
Deflection Temperature 264 psi	D648	°F	532
Tg-Glass Transition (amorphous)	D3418	°F	527
Continuous Service Temperature in Air (Max.)		°F	500
Thermal Conductivity		BTU-in/(hr-ft²°F)	1.80

For additional information about our products call 1-800-366-0300 or via e-mail at select.support@qplas.com

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Property	Method	Unit	Value
Electrical			
Dielectric Strength, Short Term	D149(2)	Volts/mil	580
Surface Resistivity	EOS/ESD S11.11	Ohm/square	>10^16
Dielectric Constant, 10^6 Hz	D150(2)		4.20
Dissipation Factor, 10^6 Hz	D150(2)		0.026
Chemical			
Acids, Weak, 73°F/23°C, acetic acid, dilute hydrochloric or sulfuric			Acceptable Service
Acids, Strong, 73°F/23°C, conc. hydrochloric or sulfuric			Limited Service
Alkalies, Weak, 73°F/23°C, dilute ammonia or sodium hydroxide			Limited Service
Alkalies, Strong, 73°F/23°C, conc. ammonia or sodium hydroxide			Unacceptable
Hydrocarbons-Aromatic, 73°F/23°C, benzene, toluene			Acceptable Service
Hydrocarbons-Aliphatic, 73°F/23°C, gasoline, hexane, grease			Acceptable Service
Ketones, Esters, 73°F/23°C, acetone, methyl ethyl ketone			Acceptable Service
Ethers, 73°F/23°C, diethyl ether, tetrahydrofuran			Acceptable Service
Chlorinated Solvents, 73°F/23°C, methylene chloride, chloroform			Acceptable Service
Alcohols, 73°F/23°C, methanol, ethanol, anti-freeze			Acceptable Service
Inorganic Salt Solutions, 73°F/23°C, sodium chloride, potassium cyanate			Acceptable Service
Continuous Sunlight, 73°F/23°C			Limited Service
Miscellaneous			
Water Absorption Immersion, 24 hr	D570	%	0.40
Water Absorption Immersion, Sat.	D570	%	1.70
Ionic Impurities - Na (Sodium)	Total Digestion	ppm	14.50
Ionic Impurities - K (Potassium)	Total Digestion	ppm	3.90
Ionic Impurities - Fe (Iron)	Total Digestion	ppm	0.10
Outgassing TML (Total Mass Loss)	E595	%	1.90
CVCM (Collected Volatile Condensable Material)	E595	%	0.00
WVR(Water Vapor Regained)	E595	%	0.50
Compliance			
UL94			V-0

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