Trident Acetal™ GP POM-C

Acetal polymers, referred to chemically as POM PolyOxyMethylene, are semi-crystalline engineering thermoplastics made by the polymerization of formaldehyde. They have physical properties that are not available with metals or most other plastics; high mechanical strength and rigidity, low coefficients of friction, low moisture absorption, excellent dimensional stability, fatigue endurance, and resistance to abrasion and creep. These materials are also resistant to a wide range of solvents and have good electrical properties.

Standard Grades/Colors:

Acetal Copolymer POM-C

Natural	Blue CG34096
(white)	Red CS33273
Black	Orange CN7540
Blue FG	Yellow CL33402
	Green CJ33826
	Gray CC34031

Specifications:

ASTM D6778 POM0211 (resin spec)
ASTM D6100 SPOM0211 (shape spec)
FDA 21CFR 177.2470

Applications

- Structural components
- Bearings, bushings, wear pads
- Gears
- Electrical components
- Jigs and fixtures
- Pump and valve parts
- Medical components

Characteristics

- Low moisture absorption
- Low coefficient of friction
- High strength and stiffness
- Excellent electrical properties
- Good chemical resistance
- Easy to fabricate

Properties	English		International SI		
Acetal GP POM-C per ASTM D6778 POM0211	Value Range	Unit	Value Range	Unit	Test Method
Density	0.051	lb/in^3	1.410	g/cm^3	ASTM D1505
Water Absorption (73ºF, 24 hours)	0.18 to 0.20	%	0.18 to 0.20	%	ASTM D570
Tensile Strength (Yield)	9300 to 9450	psi	64 to 65	Mpa	ASTM D638
Tensile Modulus	330000 to 450000	psi	2277 to 3105	Mpa	ASTM D638
Tensile strain at break	30 to 32	%	30 to 32	%	ASTM D638
Compressive strain at 10% nominal	12000 to 15000	psi	83 to 104	Mpa	ASTM D695
Flexural Modulus	373000 to 400000	psi	2574 to 2760	Mpa	ASTM D790
Flexural Strength	12000 to 13000	psi	83 to 90	Mpa	ASTM D790
Izod Impact (notched)	0.7 to 1.5	ft-lb/inch	37 to 80	J/m	ASTM D256
Rockwell Hardness 73ºF	R115 to R120	R scale	R115 to R120	R scale	ASTM D785
	M86 to M88	M scale	M86 to M88	R scale	ASTM D785
Dynamic Coefficient of Friction, 40 psi, 50 fpm	0.20 to 0.21		0.20 to 0.21	--	ASTM D3702
Deflection Temperature 264 psi	220 to 230	ºF	104.53 to 110.09	ºC	ASTM D648
Service temp in air (long term)	-58 to 212	ºF	-15 to 100	ºC	--
Max service temp in air (intermittent)	285	ºF	140.00	ºC	--
Melting Temperature	329 to 335	ºF	165.13 to 168.47	ºC	ASTM D2133
Surface Resistivity	1×10^{12} to 1×10^{16}	--	1×10^{12} to 1×10^{16}	--	--
Volume Resistivity	1×10^{14}	--	1×10^{14}	--	ASTM D257
Dielectric Strength	420 to 500	V/mil	17 to 20	kV/mm	ASTM D149
Flammability Rating	HB	.031"	HB	.8mm	UL94

Chemical Resistance

Acetal™ GP POM-C	
Acetone	Resistant
Ammonia solution 10%	Resistant
Benzene	Limited resistance
Boric acid, aqueous solution 10%	Not resistant
Diesel oil	Resistant
Ethanol, 96%	Resistant
Ethylene chloride	Not resistant
Formaldehyde, aqueous solution 30%	Resistant
Glycerin	Resistant
Glycol	Resistant
Hydrochloric acid, aqueous solution 36%	Not resistant
Hydrofluoric acid, 40%	Not resistant
Isopropanol	Resistant
Methanol	Resistant
Nitric acid, aqueous solution 10%	Not resistant
Silicone Oil	Resistant
Sulphuric acid, aqueous solution 2%	Resistant
Sulphuric acid, concentrated 98%	Not resistant
Triethanolomine	Resistant
Trichloroethylene	Not resistant

* This information is based on average resin value specifications and is only to assist and advise you on the current technical knowledge, it is given without obligations or liability.

Trident Plastics Inc.