

Fluorosint® 135 PTFE

Excellent Machinability, Stability and Performance Value



Competitive Advantage

Fluorosint® product family is not the same old typical PTFE compound. Fluorosint® is well known for its strong ability to outperform where all other compounds fall short. Whether it's the continuous use temperatures up to 500°F, improved deformation under load, lowest coefficient of friction or the low uniform coefficient of linear thermal expansion, Fluorosint® simply performs.

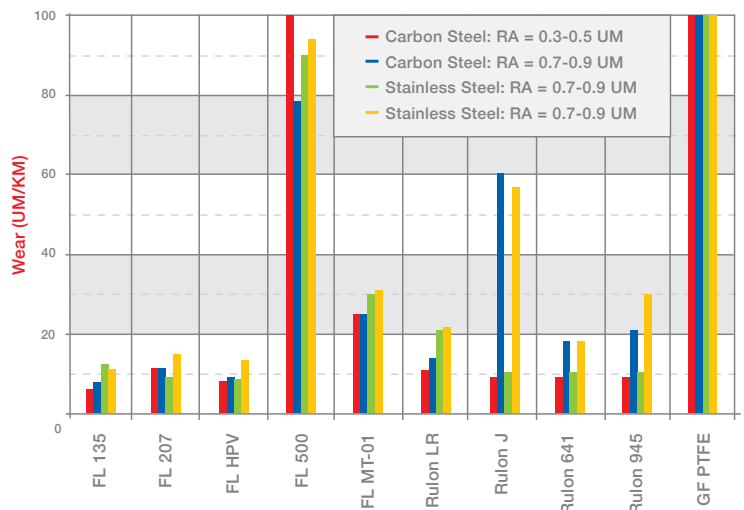
Our newest Fluorosint® 135 blend offers high performance at an extremely competitive price. A perfectly blended material which provides extreme performance for seals, bearings, and wear applications. The lowest coefficient of friction material with low deformation provides superior performance over typical filled PTFE compounds.

Application Highlights

- Compressor, pump and valve wear parts
- Seals, bearings, thrust washers and seats
- Insulating blocks and fixtures in diagnostic equipment
- Compressor piston rings, rider bands & packing sets
- Lubricated or unlubricated dry running applications
- Typical air, hydrogen, nitrogen, refrigerant gas service
- Service temperatures of 450°F / 232°C
- Increased part life and improved performance
- Applications in Chemical Processing, Medical, Aerospace, and Food Market

Wear Rate at High Temperature

Wear at 150°C (O-28 km / 300°F (O-17.7mi)
Plastic Pin on Rotating Steel Disk, Speed = 0.33 m/s., Pressure = 3MPa, Pin Diameter = 6mm, Plastic pin on rotating steel disk, Speed = 65.0 ft/min, Pressure = 435 psi, Pin Diameter = 0.236"



Key Benefits Compared to other filled PTFE Compounds

- Lowest wear rate
- Lowest CLTE
- Lowest COF
- Lowest deformation
- Counter surface has little effect on performance
- No excessive run in period
- Extremely chemically inert

Data Sheet

	Property	Units	Test Method	Typical Average Value
Mechanical Properties	Specific Gravity @ 73°F	-	ASTM D792	1.91
	Ultimate Tensile Strength	psi	ASTM D638	1,300
	Tensile Modulus	psi	ASTM D638	370,000
	Elongation (at break)	%	ASTM D638	3
	Shear Strength	psi	ASTM D732	
	Flexural Strength	psi	ASTM D790	2,500
	Flexural Modulus of Elasticity	psi	ASTM D790	300,000
	Compressive Strength @ 10% Deformation	psi	ASTM D695	7,000
	Compressive Modulus	psi	ASTM D695	200,000
	Hardness, Rockwell	-	ASTM D785	R80
Notched Izod Impact (1/8")	ft. lb./in. of notch	ASTM D256		
Thermal Properties	Coefficient of Linear Thermal Expansion -40°F to 300°F	- in./in./°F	- ASTM E831	2.5 X 10 ⁻⁵
	Deflection Temperature @ 264 psi	°F	ASTM D648	
	Tg-Glass Transition (amorphous)	°F	ASTM D3418	NA
	Tm-Melting Point (crystalline) peak	°F	ASTM D3418	621
	Continuous use Temp. ⁽¹⁾	°F	-	500
	Thermal Conductivity	BTU in./(hr. ft. ² °F)	ASTM F433	
Electrical Properties	Dielectric Strength	Volts/mil	ASTM D149	
	Surface Resistivity	ohms/square	EOS/ESD S11.11	>1013
	Volume Resistivity	ohms/square	EOS/ESD S11.11	
	Dielectric Constant, 10 ⁶ Hz	-	ASTM D150	
	Dissipation Factor, 10 ⁶ Hz	-	ASTM D150	
Flam- mability	UL-94 @ 1.5 mm (1/16 in.) estimated rating based on available data (3)	-	UL-94	V-0
Tribological	Coefficient of Friction - Static (50 lb. load, 90° rotation)	-	MCAM TM 55007	0.20
	Coefficient of Friction - Dynamic (unlub.)	20 ft./min. x 250 psi	MCAM TM 55007	0.15
	Limiting PV with 4:1 safety factor applied	ft. lbs./in. ² -min.	MCAM TM 55007	14,300
	Wear Factor x 10 ⁻¹⁰ , at 50 psi x 100 fpm	in ³ -min./ft. lbs. hr	MCAM TM 55100	32
Other	Water Absorption Immersion, %, 24 Hours @ 73°F ⁽²⁾	% by wt.	ASTM D570	0.1
	Absorption Immersion, %, Saturation @ 73°F ⁽²⁾	% by wt.	ASTM D570	0.3
Solvents	Acids, Weak, 73° F; acetic, dilute hydrochloric or sulfuric acid	-	-	A
	Acids, Strong, 73° F; conc. hydrochloric or sulfuric acid	-	-	A
	Alkalies, Weak, 73° F; dilute ammonia or sodium hydroxide	-	-	A
	Alkalies, Strong, 73° F; conc. ammonia or sodium hydroxide	-	-	U
	Hydrocarbons, Aromatic, 73° F; benzene, toluene	-	-	A
	Hydrocarbons, Aliphatic, 73° F; gasoline, hexane, grease	-	-	A
	Ketones, Esters, 73° F; acetone, methyl ethyl ketone	-	-	A
	Ethers, 73° F; diethyl ether, tetrahydrofuran	-	-	A
	Chlorinated Solvents, 73° F; methylene chloride, chloroform	-	-	A
	Alcohols, 73° F; methanol, ethanol, antifreeze	-	-	A
	Inorganic Salt Solutions, 73° F; sodium chloride, potassium chloride	-	-	A
Continuous Sunlight, 73° F	-	-	A	

(1) Data represents Mitsubishi Chemical Advanced Materials' estimated maximum long-term service temperature based on practical field experience. (2) Specimens: 1/8" thick x 2" diameter or square.

(3) Estimated rating based on available data. The UL-94 Test is a laboratory test and does not relate to actual fire hazard. Contact Mitsubishi Chemical Advanced Materials for specific UL "Yellow Card" recognition number.

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