

Fluorosint® 135 PTFE

Application highlights

- Compressor, pump and valve wear parts
- Seals, bearings, thrust washers and seats
- Compressor piston rings, rider bands & packing sets
- Typical air, hydrogen, nitrogen, refrigerant gas service

Key benefits compared to other filled PTFE compounds

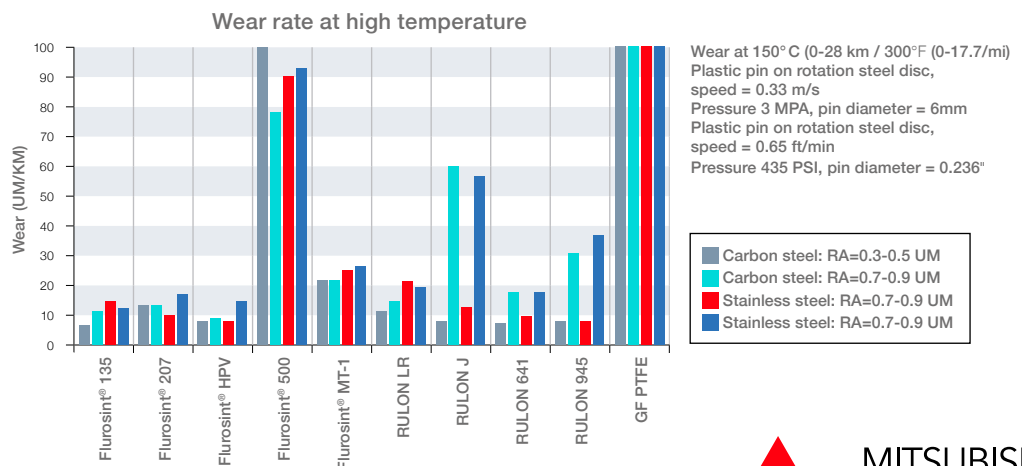
- Low wear rate and COF
- Low CLTE
- Low deformation
- Counter surface has little effect on performance
- Extremely chemically inert
- Service temperatures of 450°F / 232°C
- Increased part life and improved performance



Excellent machinability, stability and performance value

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® PTFE 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.



ADVANCED FLUID MANAGEMENT

Fluorosint® 135 PTFE

		ISO*			ASTM*		
		Test methods	Units	Indicative Values	Test methods	Units	Indicative Values
Thermal Properties (1)	Melting temperature (DSC, 10°C (50°F) / min)	ISO 11357-1/-3	°C	330	ASTM D3418	°F	621
	Glass transition temperature (DMA, tan delta)	DMA	°C	-	DMA	°F	-
	Thermal conductivity at 23°C (73°F)	-	W/(K.m)		-	BTU.in/(hr.ft².°F)	
	Coefficient of linear thermal expansion (-40 to 150 °C) (-40 to 300°F)	-			ASTM E-831 (TMA)	µin./in./°F	25
	Coefficient of linear thermal expansion (23 to 100°C) (73°F to 210°F)	-	µm/(m.K)	50			
	Coefficient of linear thermal expansion (23 to 150°C) (73°F to 300°F)	-	µm/(m.K)	55			
	Coefficient of linear thermal expansion (>150°C) (> 300°F) -	-	µm/(m.K)	85			
	Heat Deflection Temperature: method A: 1.8 MPa (264 PSI)	ISO 75-1/-2	°C	100	ASTM D648	°F	220
	Continuous allowable service temperature in air (20.000 hrs) (3)	-	°C	-	-	°F	500
	Min. service temperature (4)	-	°C	-50	-	°F	-
Flammability: UL 94 (3 mm (1/8 in.)) (5)	-	-	V-0	-	-	V-0	
Flammability: Oxygen Index	ISO 4589-1/-2	%					
Mechanical Properties (6)	Tensile strength	ISO 527-1/-2 (7)	MPa	11	ASTM D638 (8)	PSI	1,300
	Tensile strain (elongation) at yield	ISO 527-1/-2 (7)	%	3.00	ASTM D638 (8)	%	2.60
	Tensile strain (elongation) at break	ISO 527-1/-2 (7)	%	3	ASTM D638 (8)	%	4.7
	Tensile modulus of elasticity	ISO 527-1/-2 (9)	MPa	1,238	ASTM D638 (8)	KSI	370
	Shear Strength	ASTM D732	MPa	17	ASTM D732	PSI	2,500
	Compressive stress at 1 / 2 / 5 % nominal strain	ISO 604 (10)	MPa	19/ 25 / 30			
	Compressive strength				ASTM D695 (11)	PSI	7,000
	Charpy impact strength - unnotched	ISO 179-1/1eU	kJ/m²	5.0			
	Charpy impact strength - notched	ISO 179-1/1eA	kJ/m²	3.5			
	Izod Impact notched				ASTM D256	ft.lb./in	0.50
	Flexural strength	ISO 178 (12)	MPa	-	ASTM D790 (13)	PSI	2,500
	Flexural modulus of elasticity	ISO 178 (12)	MPa	-	ASTM D790	KSI	300
	Rockwell M hardness (14)	ISO 2039-2	-		ASTM D785	-	
	Rockwell R Hardness (14)	ISO 2039-2	-	67	ASTM D2240	-	80
Electrical Properties	Electric strength	IEC 60243-1 (15)	kV/mm	-	ASTM D149	Volts/mil	-
	Volume resistivity	IEC 62631-3-1	Ohm.cm		IEC 60093	Ohm.cm	
	Surface resistivity	ANSI/ESD STM 11.11	Ohm/sq.	10E4	ANSI/ESD STM 11.11	Ohm/sq.	10E4
	Dielectric constant at 1 MHz	IEC 62631-2-1	-	-	ASTM D150	-	-
	Dissipation factor at 1 MHz	IEC 62631-2-1	-	-	ASTM D150	-	-
Miscellaneous	Colour	-	-	Black	-	-	Black
	Density	ISO 1183-1	g/cm³	1.89			
	Specific Gravity				ASTM D792	-	1.91
	Water absorption after 24h immersion in water of 23°C (73°F)	ISO 62 (16)	%		ASTM D570 (17)	%	0.10
	Water absorption at saturation in water of 23 °C (73°F)	-	%		ASTM D570 (17)	%	0.3
	Wear rate	ISO 7148-2 (18)	µm/km	-	QTM 55010 (19)	in².min/ft.lbs.hrx10 ⁻¹⁰	32.00
	Dynamic Coefficient of Friction (-)	ISO 7148-2 (18)	-		QTM 55007 (20)	-	0.15
	Limiting PV at 100 FPM				QTM 55007 (21)	ft.lbs/in².min	14,300
	Limiting PV at 0.1 / 1 m/s cylindrical sleeve bearings	-	Mpa.m/s	- / -			
	Chemical Resistance	https://www.mcam.com/en/support/chemical-resistance-information/			https://www.mcam.com/en/support/chemical-resistance-information/		

Note: 1 g/cm³ = 1,000 kg/m³ ; 1 MPa = 1 N/mm² ; 1 kV/mm = 1 MV/m

NYP: there is no yield point

*This table, mainly to be used for comparison purposes, is a valuable help in the choice of a material. The data listed here fall within the normal range of product properties of dry material. However, they are not guaranteed and they should not be used to establish material specification limits nor used alone as the basis of design. This product data sheet and any data and specifications presented on our website shall provide promotional and general information about the Engineering Plastic Products (the "Products") manufactured and offered by Mitsubishi Chemical Advanced Materials and shall serve as a preliminary guide. All data and descriptions relating to the Products are of an indicative nature only. Neither this data sheet nor any data and specifications presented on our website shall create or be implied to create any legal or contractual obligation.

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