



**Engineering
Plastics**

QUANDA

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Typical Properties Data Sheet

The Supplier of Engineering Plastics
Rods, Sheets, Tubes, Profiles and Machining Parts

Saferlon® ECTFE Properties Data Sheet

① Raw material description

Standard Grade:	Mould processing grade	Appearance color:	---
Applications:	Processing materials, sheet, rod, tube, chemical resistance components, pump, pipeline, pipeline fitting, storage tank, heat exchanger, electric wire etc.		
Remarks:	Properties: excellent chemical stability, good corrosion resistance, good toughness, wear resistance, excellent creep resistance, high rigidity and high strength, anti-aging properties, anti-ultraviolet, anti-nuclear radiation, excellent heat resistance and dielectrical strength.		

② Raw material technical datasheet

Property item	Test conditions	Testing method	Testing data	Unit
I. Physical property				
Density	---	ASTM D792	1.68	g/cm ³
Shrinkage	---	ASTM D955	2.0~2.5	%
Absorption	24h	ASTM D570	<0.1	%
Flammability class	thickness 0.76mm	UL94	V-0 carbonization	Class
II. Mechanical property				
Tensile strength	23°C	ASTM D638	41~54	MPa
Tensile yield strength	---	ASTM D638	32	MPa
	-196°C	ASTM D638	169	MPa
Tensile modulus	---	ASTM D638	1655	MPa
	-196°C	ASTM D638	6680	MPa
Elongation at break	---	ASTM D638	200~300	%
	-196°C	ASTM D638	3~6	%
Bending yield strength	---	ASTM D790	48	MPa
Flexural modulus	---	ASTM D790	1655	MPa
Hardness-Rockwell	---	ASTM D785	93	R (Scale)
Hardness- shore D	hardmeter	ASTM D2240	75~90	D
Cantilever beam impact strength	---	ASTM D256	constant	kJ/m ²
	-40°C	ASTM D256	16	kJ/m ²
Abrasion strength	1000 times	ASTM D1044	0.005	cm ²
Falling sphere impact strength	falling sphere A, thickness 2.3mm	ASTM D2444	>1940	kJ/m
	falling sphere C, φ1.9mm tube	ASTM D2444	1940	kJ/m
Coefficient of static friction	rub with steel	ASTM D1894	0.15	---
Coefficient of dynamic friction	rub with steel 50CM/S	ASTM D1894	0.65	---

III. Thermal property				
Thermal deformation temperature	0.49MPa	ASTM D648	90~115	°C
	1.86MPa	ASTM D648	60~76	°C
Max. working temperature(short time)	---	UL746B	190	°C
Max. working temperature(long time)	20000h	UL746B	150~170	°C
Melting temperature	---	ASTM D2133	240	°C
Brittle temperature	---	ASTM D746	-76	°C
Coefficient of heat conduction	40~150°C	ASTM C177	0.154~016	W/(m*K)
Coefficient of linear thermal expansion	-30~50°C	ASTM D696	8	10^{-5}K^{-1}

IV. Electrical property				
Dielectric constant	0~200°C	ASTM D150	2.59	10^6Hz
Dielectric loss angle tangent	---	ASTM D150	0.009~0.013	10^6Hz
Dielectric strength	short time, thickness 3.2MM	ASTM D149	20	KV/mm
Dielectric strength	---	ASTM D257	$> 10^{16}$	(Ω) * cm
Volume resistivity	100%RH	ASTM D257	$10^{14} \sim 10^{15}$	(Ω)
Electric arc resistance	---	ASTM D495	130	sec

NOTE: $1 \text{ g/cm}^3 = 1,000 \text{ kg/m}^3$, $1 \text{ Mpa} = 1 \text{ N/mm}^2$, $1 \text{ kV/mm} = 1 \text{ MV/m}$

Statement:

NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Quanda will not provide any legally binding guarantee of certain properties, or any suitability.