



**Engineering
Plastics**

QUANDA

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Typical Properties Data Sheet

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

Semolar® UHMW-PE550 Technical Property Data Sheet

①Raw materials description				
Standard grade:	Molding grade	Appearance color:	---	
Application:	Material processing, plate, bar, pipe, materials used in the textile, paper, food machinery, transportation, medical, mining, chemical, make gears, bearings, bearings, star wheels, valves, pumps, rails, packing, equipment lining, Slippage plates, artificial joints, fiber for bullet-proof vests and ropes. UPE plate can replace carbon steel, stainless steel, bronze ectc. Textile industry technical shuttle, playing shuttle rods, gears, couplings, sweeping flower stem, buffer block, eccentric, rod bushings, swing consequences of impact-resistant wear parts. Making cover plate on the paper industry, wiper blade, compaction components, connectors, mechanical drive shaft seal, side guide wheel, scrapers, filters, etc.; Making powdered material transport industrial hoppers, silos, chutes the linings.			
Characteristics:	The impact resistance is the first, excellent wear resistance, good self-lubricating, good chemical stability, anti-adhesion, low density, excellent electrical insulation, sound barrier, anti-radiation.			
②Raw materials technical data				
Property item	Test conditions(status)	Test methods	Test data	Unit
I.Physical properties				
Density	---	ASTM D792	0.94	g/cm3
Shrinkage	---	ASTM D955	2~3	%
Water absorption	24 hours dipping (23°C)	ASTM D570	<0.01	%
Flammability class	---	UL94	HB	Class
II.Mechanical properties				
Impact strength	---	ASTM D256	130	J/m
Tensile stress	---	ASTM D638	0.51	MPa
Tensile strength	---	ASTM D638	42	MPa
Tensile modulus	1mm/min	ASTM D638	680	MPa
Elongation at break	---	ASTM D638	50	%
Hardness-Rockwell	---	ASTM D785	40	R (Scale)
Hardness-Shore D	---	ASTM D2240	>65	D
Charpy impact strength	---	ASTM D256	>80	kJ/m2
IZOD impact strength(notched)	---	ASTM D256	NB	J/m2
Friction coefficient	---	ASTM D1894	0.15~0.25	---
III Thermal properties				
Heat deflection temperature-HDT/A	0.45MPa	ASTM D648	85	°C
Max. working temperature-short time	---	UL746B	93	°C
Max. working temperature-long time	---	UL746B	82	°C
Melting point	---	ASTM D2133	130	°C
Brittle temperature	---	ASTM D746	-137	°C
Thermal conductivity	23°C	ASTM C177	0.41	W/(m*K)
Coefficient of linear thermal expansion	---	ASTM D696	20	10 ⁻⁵ K ⁻¹
IV.Electrical properties				
Dielectric constant	---	ASTM D150	2.3	10 ⁶ Hz

Dielectric dissipation factor	---	ASTM D150	1.9×10^{-4}	10^6 Hz
Dielectric strength	short time	ASTM D149	45	kV/mm
Volume resistivity	---	ASTM D257	10^{17}	(Ω)*cm
Surface resistivity	---	ASTM D257	10^{17}	(Ω)

NOTE: 1 g/cm³ = 1,000 kg/m³, 1 Mpa = 1 N/mm², 1 kV/mm = 1 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.