



# Typical Properties Data Sheet

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

## Semolar® UHMW-PE750 Technical Property Data sheet

### ①raw materials description

<b>Standard grade</b>	Molding grade	<b>Appearance colors:</b>	---
<b>Application:</b>	Processing material , plate, strips,tubse, 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 board can replace carbon steel, stainless steel, bronze and the like. Textile industry technical shuttle, a playing shuttle rods, gears, couplings, sweeping flower stem, buffer block, eccentric, rod bushings, swing consequences of impact-resistant wear parts. Do cover plate on the paper industry, wiper blade, compaction components, connectors, mechanical drive shaft seal, side guide wheel, scrapers, filters, etc.; do powdered material transport industrial hoppers, silos, chutes the linings.		
<b>Characteristics:</b>	The impact resistance is the first , excellent wear resistance, self-lubricating, high chemical stability, anti-adhesion, low density, excellent electrical insulation, sound barrier, anti-radiation.		

### ②raw materials technical data

Property item	Test condition(status)	Test method	Test data	Unit
<b>I.Physical properties</b>				
<b>Density</b>	---	ASTM D792	0.94	g/cm3
<b>Shrinkage</b>	---	ASTM D955	2~3	%
<b>Water absorption</b>	24 hours dipping (23°C)	ASTM D570	<0.01	%
<b>Flammability class</b>	---	UL94	HB	Class
<b>II.Mechanical properties</b>				
<b>Impact strength</b>	---	ASTM D256	200	J/m
<b>Tensile stress</b>	---	ASTM D638	0.7	MPa
<b>Tensile strength</b>	---	ASTM D638	42	MPa
<b>Tensile modulus</b>	---	ASTM D638	680	MPa
<b>Elongation at break</b>	---	ASTM D638	50	%
<b>Hardness-Rockwell</b>	---	ASTM D785	40	R (Scale)
<b>Hardness-Shore D</b>	---	ASTM D2240	>65	D
<b>Charpy impact strength</b>	---	ASTM D256	>80	kJ/m2
<b>IZOD impact strength(notched)</b>	---	ASTM D256	NB	J/m2
<b>Friction coefficient</b>	---	ASTM D1894	0.15~0.25	---
<b>III.Thermal properties</b>				
<b>Heat deflection temperature-HDT/A</b>	0.45MPa	ASTM D648	85	°C
<b>Max.working temperature-short time</b>	---	UL746B	93	°C
<b>Max.working temperature-long time</b>	---	UL746B	82	°C
<b>Melting point</b>	---	ASTM D2133	130	°C
<b>Brittle temperature</b>	---	ASTM D746	-137	°C
<b>Thermal conductivity</b>	23°C	ASTM C177	0.41	W/(m*K)
<b>Coefficient of linear thermal expansion</b>	---	ASTM D696	20	10 <sup>-5</sup> K <sup>-1</sup>
<b>IV.Electrical properties</b>				
<b>Dielectric constant</b>	---	ASTM D150	2.3	10 <sup>6</sup> Hz

<b>Dielectric dissipation factor</b>	---	ASTM D150	$1.9 \times 10^{-4}$	$10^6$ Hz
<b>Dielectric strength</b>	short time	ASTM D149	45	kV/mm
<b>Volume resistivity</b>	---	ASTM D257	$10^{17}$	( $\Omega$ )*cm
<b>Surface resistivity</b>	---	ASTM D257	$10^{17}$	( $\Omega$ )

**NOTE:** 1 g/cm<sup>3</sup> = 1,000 kg/m<sup>3</sup>, 1 Mpa = 1 N/mm<sup>2</sup>, 1kV/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.