

Material: High-Molecular-Weight-Polyethylene.

Abbreviation: HMWPE-500



**Short description of material:**

HMWPE is commonly used as wear parts and Abrasion resistant components in the conveyor and Material handling industry. HMWPE is used in food Preparation and chopping boards because its slightly Softer than UHMWPE-1000 grade and better for the Equipment's. Also, HMWPE offers a better consistent And Durable cutting surface than HDPE

**Application examples:**

- \* Chute, Hopper and truck bed liners
- \* Wear strips and chain guides
- \* Star Wheels and Idler Sprockets
- \* Sliding Pads
- \* Kitchen Equipments.
- \*Scraper blade.

**Colors:** Natural, black, green, Etc..

- Properties:**
- Good wear resistance
  - Good sliding properties
  - Good bending and impact strength
  - Good chemical resistance

<b>Material designation</b>		<b>St 500®</b>	
Row material		PE-HMW	
Material color(s)		natural, black, green	
<b>Properties</b>	<b>Unit</b>	<b>Test method</b>	<b>value</b>
Molecular Weight (average molar mass)	g/mol		0, 5 Mio.
<b>Mechanical Properties</b>			
Density	g/cm <sup>3</sup>	DIN 53479	0,96
Tensile strength	N/mm <sup>2</sup>	DIN 53455	27
Shore D hardness, 15s -Value	Skala D	DIN 53505	~70
Ball indentation hardness, 30s - Value	N/mm <sup>2</sup>	DIN ISO 2039 Part 1	46
Ultimate tensile strength	N/mm <sup>2</sup>	DIN 53455	25
Elongation at break	%	DIN ISO / R 527	100
Modulus of elasticity	N/mm <sup>2</sup>	DIN 53457	1.060
Notched impact strength (Sharp)	kJ/m <sup>2</sup>	DIN 53453	o.Br.
Abrasion	%	Send slurry method	> 250
Coefficient of Friction	μ		0,1 – 0,2
<b>Thermal properties</b>			
Dimensional stability under heat	°C	DIN 53461	47
Vicat softening temperature	°C	DIN 53460	80
Crystalline melting range	°C	DTA	130 – 135
Thermal conductivity at 23 °C	W/(K * m )	DIN 52612	0,41
Specific heat at 23 °C	kJ/ (K * Kg)		1,8
Coefficient of linear expansion at 23 °C	10 <sup>-5</sup> * ( 1/K)	DIN 53752	~20
Fire behaviour		UL 94	HB
Application temperature at (min)	°C		-100
Application temperature (constant)	°C		+80
Moisture absorption	%		< 0,01
<b>Electrical properties</b>			
Specific volume resistance	Ω * cm	DIN 53482	< 10 <sup>15</sup>
Surface resistance	Ω	DIN 53482	< 10 <sup>13</sup>
Dielectric strength	KV/mm	DIN 53481	40
Dielectric constant at 50 Hz		DIN 53485	2,9

Physiologically harmless according to EU-directive 2002/72/EG, FDA-directive 21CFR177.1520 and 21 CFR178.3297

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