

823 – UHMW-PE Sheeting and Rod

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Declaration of Compliance Statement – 823 – UHMW-PE Sheeting and Rod

Low cost material solution for applications with the need for high impact resistance.

Medium dimensional stability due to extreme low water absorption, but high Coefficient of Linear Thermal Expansion (CLTE). Good performance in cryogenic environment, excellent release properties, no detection by X-ray.

Applications: Mallet head

Improved safety supported by FDA and EU standards food contact complaint and metal detectable plastic materials.

- **Standard Colour(s):** Blue (5010)
- **Special Colours(s):** N/A
- **Fields of application:** food industry, pharmaceutical industry
- **Properties:** low abrasion, high wear resistance, good sliding properties, high bending and impact strength, metal detectable

Material Designation		St 6000® MDP	
Raw material	PE-UHMW		
Material colour	Blue		
Properties	Unit	Test Method	Value
Molecular weight (Average molar mass)	g/mol		9,2 Mio
Mechanical Properties			
Density	g/cm ³	DIN 53479	>0,93
Tensile strength	N/mm ²	DIN 53455	>17
Shore D hardness, 15s - Value	Skala D	DIN53505	68
Ball indentation hardness, 30s - Value	N/mm ²	DIN ISO 2039 Part 1	
Ultimate tensile strength	N/mm ²	DIN 53455	40
Elongation at break	%	DIN ISO/R 527	>200
Modulus of elasticity	N/mm ²	DIN 53457	1000
Notched impact strength (Sharp)	Kj/M ²	Din 53453	<100
Abrasion	%	Sand slurry method	120
Coefficient of friction	Q		
Thermal Properties			
Dimensional stability under heat	°C	DIN 53461	47
Vicat softening temperature	°C	DIN 53460	79
Crystalline melting range	°C	DTA	130 - 135
Thermal conductivity at 23°C	W/(K*g)		
Specific heat at 23°C	Kj/(k*Kg)		
Coefficient of linear expansion at 23°C	10 ⁻⁵ *(1/K)	DIN 53752	20
Fire behaviour		UL 90	HB
Application temperature (Min)	°C		-200
Application temperature (constant)	°C		+80
Moisture absorption	%		
Electrical properties			
Specific volume resistance	Ω*cm	DIN 53482	10 ¹³
Surface resistance	Ω	DIN 53482	10 ¹²
Dielectric strength	kV/mm	DIN 53481	45
Dielectric constant at 50 Hz		DIN 53485	1,9
Physiologically harmless according to EU-directive 2002/72/EG, FDA-directive 21CFR177.1520 and 21CFR178.3297			

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