



NATIONWIDE PLASTICS, INC.

The Authority on Plastics Manufacturing and Distribution



Polystone® M Physical properties

Physical Properties			Polystone® M (UHMW-PE)			
Property	Units	ASTM Test	Natural	XL Cross linked	MPG Glass filled	Reprocessed
Density	gm/cm ³	D792	.930	.932	.96	.935
Tensile strength at yield 73°F	psi	D638	3100	2900	2700	3000
Elongation 73°F	%	D638	350	330	265	290
* Relative volumetric abrasion loss	*	*	100	85	75	90
Coefficient of friction 73°F on steel	-	-	Static .15-.20 Dynamic .10-.20	.15-.20 .08-.18	.15-.20 .10-.20	.17-.20 .10-.20
IZOD impact strength 73°F	KJ/m ²	D4020-96	125	120	110	96
Hardness 73°F	-	D785	Shore D 62-66	D 62-66	D 63-67	D 63-69
Melting point	°F	D789	275°-280°	275°-280°	275°-280°	275°-280°
Coefficient of linear thermal expansion	1/K	D696	2.0 x 10 ⁻⁴	1.0 x 10 ⁻⁴	1.0 x 10 ⁻⁴	1.9 x 10 ⁻⁴
Continuous service temperature in air (max)	°F	-	180	180	180	180
Volume resistivity	Ohm/cm	D257	>10 ¹⁵	>10 ¹⁵	>10 ¹⁵	>10 ¹⁵
Dielectric constant (10 ⁸ Hz)	-	D150	2.3	2.3	2.3	-
Dielectric strength	KV/mm	D149	40	40	40	40

* Industry standard testing method using slurry of 80% aluminum oxide and 40% water at a rotation speed of 1750 rpm for 2 hours. Results indicate the ability of each material, in relation to Natural(=100), to resist abrasion under typical UHMW-PE applications. A lower number indicates better abrasion resistance.

The information listed herein is stated to the best of our knowledge and is intended to provide a general guideline for Polystone® M and its uses. The values given are based on laboratory testing backed with global industry experience. All properties in this table have performed equal or better in laboratory testing. However, the data should not be considered as guaranteed specific properties. Suggested applications are provided for information only and are not specific recommendations.

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