Reprocessed UHMW-PE

Recycled, Ultra High Molecular Weight Polyethylene

Physical properties			Polystone® M (UHMW-PE)		
Property	Units	ASTM Test	Natural	MPG Glass Filled	Reprocessed
Density	gm/cm³	D792	.930	.96	.935
Tensile strength at yield 73°F	psi	D638	3100	2700	3000
Elongation 73° F	%	D638	350	265	290
*Relative volumetric abrasion loss	*	*	100	75	90
Coefficient of friction 73°F on steel	–	–	Static .15 - .20 Dynamic .10 - .20	.15 - .20 .10 - .20	.17 - .20 .10 - .20
IZOD impact strength 73°F	KJ/m²	D4020-96	125	110	96
Hardness 73°F	–	D785	Shore D 62 - 66	D 63 - 67	D 63 - 69
Melting point	°F	D789	275° - 280°	275° - 280°	275° - 280°
Coefficient of linear thermal expansion	1/K	D696	2.0×10^{-4}	1.0×10^{-4}	1.9×10^{-4}
Continuous service temperature in air (max)	°F	–	180	180	180
Volume resistivity	Ohm/cm	D257	$>10^{15}$	$>10^{15}$	$>10^{15}$
Dielectric constant (103 Hz)	–	D150	2.3	2.3	–
Dielectric strength	KV/mm	D149	900	900	900

Specifications and Approvals		
ASTM	D-4020	UHMW-PE molding and extrusion materials
FDA	Natural, Oil-filled and if requested, Virgin Colors	Polystone® M (UHMW-PE) is in compliance with FDA regulations as listed in the Federal Register under the Food, Drug and Cosmetic Act of 1958, as amended for food contact use provided it is used unmodified and in accordance with good manufacturing practices.
Federal	L-P-390C	Plastic, molding and extrusion material, polyethylene and copolymers (low, medium and high density)
Military	MIL-P-23536 MIL-P-21922	Plastic sheets, virgin polyethylene Plastic rods and tubes polyethylene
OSHA		Polystone® M (UHMW-PE) is not considered hazardous, as defined by the OSHA Hazard Communications Standard 29 CFR 1910.1200

** Industry standard testing method using a slurry of 60% 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 brochure 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.