



Uniguard-VHMW-PE (Orange Material Standard)

Uniguard-VHMW-PE (Yellow Material Optional)

VHMW-PE TECHNICAL INFORMATION

Property*	ASTM Test Method	Typical Values	
		English Units	Metric Units
Density	D1505	59.2 lbs/ft ³	0.948 g/cc
Melt Flow Rate (HLMI), Condition 190 °C / 21.6 kg	D1238	---	10 g / 10 min
Polyethylene Classification	D4976	Group 2, Class 3, Grade 5	Group 2, Class 3, Grade 5
Potable Water Standards	NSF International	Meets Standards 14 & 61	Meets Standards 14 & 61
Tensile Strength @ Yield	D638	3,600 psi	24.8 MPa
Elongation at Break	D638	700%	700%
Flexural Modulus	D790	175,000 psi	1207 MPa
ESCR, Condition A & B (100% Igepal), F ₅₀	D1693	> 600 hours	> 600 hours
Durometer Hardness	D2240	68 Shore D	68 Shore D
Vicat Softening Temperature	D1525	258 °F	126 °C
Heat Deflection Temperature @ 66 psi	D648	173 °F	78 °C
Brittleness Temperature	D746	< -103 °F	< -75 °C
Tensile Impact Strength	D1822	90 ft-lbf/in ²	190 KJ/m ²
Fire Rating	---	UL94HB	UL94 HB

*The nominal properties reported herein are typical of the product but do not reflect normal testing variance and therefore should not be used for specification purposes.

Typical Properties reported herein were determined on compression molded samples prepared in accordance with Procedure C of ASTM D4703, Annex A1.

VHMW-PE CHEMICAL RESISTANCE CHART LEGEND

+ = Specimen is resistant.....Swelling <3% or weight loss <0.5%. Break elongation not significantly altered.

/ = Specimen has limited resistance...Swelling 3-8% or weight loss 0.5-5% and/or break elongation decreased by <50%

- = Specimen is not resistant.....Swelling > 8% or weight loss > 5% and/or break elongation decreased by >50%

All information and recommendations regarding properties and applications are based upon tests and data believed accurate. Any particular application is the sole responsibility of the user. No warranty is expressed or implied. Under no circumstances shall we be liable for incidental or consequential loss.



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VHMW-PE CHEMICAL RESISTANCE CHART

CHEMICAL NAME	RATING		
Acetaldehyde	+	Chlorine gas	/
Acetic acid	+	Chlorobenzene	/
Acetone	+	Chloroform	/M-
Acrylonitrile	+	Chromic acid	10+
Allyl alcohol	96+	Citric acid	+
Aluminum chloride	A+	Cyclohexanol	+
Ammonia	A+	Cyclohexanone	+
Ammonium chloride	A+	Dekalin	+
Aniline	+	Dibutyl phthalate	+
Benzaldehyde	+	Diesel oil	+
Benzene	/	Diethyl ether	+to/
Benzyl alcohol	+	Dioxane	+
Bleach (Chlorine)	-	Ethanol	96+
Boric acid	A+	Ethyl acetate	+
Butanol	+	Ethylene chloride	/
Butyl acetate	+	Ethylene diamine	+
Calcium chloride	+	Ferric chloride	A+
Carbon disulphide	/	Fluorine	-
Carbon tetrachloride	/M-	Formaldehyde	40+
		Formic acid	+



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VHMW-PE CHEMICAL RESISTANCE CHART

Furfurol	+	Potassium bichromate	40+
Glycerine	+	Potassium hydroxide	30+
Hydrochloric acid	+	Potassium nitrate	+
Hydrogen peroxide	+	Potassium permanganate	+
Hydrogen sulphide	+	Pyridine	+
Lactic acid	+	Sea water	+
Magnesium chloride	A+	Sodium carbonate	10+
Mercury	+	Sodium chloride	10+
Methanol	+	Sodium hydroxide	60+
Methyl ethyl ketone	+	Sodium sulphite	-
Methylene chloride	/	Sulphuric acid	75+
Mineral oil	+	Tallow	+
Nitric acid	+to/	Tetrahydrofurane	+M-
Nitrobenzene	+	Tetralin	+
Oleic acid	+	Thionyl chloride	-
Ozone	/	Toluene	/
Perchloric acid	50+	Transformer oil	+
Petroleum	+	Trichlorethylene	+M-
Phenol	+	Urea, aqueous	33+
Phosphoric acid	+	Water	+
		Zinc chloride	A+

Values obtained at room temperature. Call for high or low temperature applications. Number indicates concentration if < 100%. M= Values may change under mechanical stress G=Gaseous state. A=Aqueous solution. S=Soluble.