

810 – Metal Detectable Hammer/Mallet

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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.

Improved safety supported by FDA and EU standards food contact compliant and metal detectable materials

Product Code	Description
810-S056-P01	Detectable Hammer/Mallet 25mm Blue
810-S062-P01	Detectable Hammer/Mallet 50mm Blue
810-S180-P01	Detectable Hammer/Mallet 80mm Blue

Fields of application:

- food industry
- pharmaceutical industry

Properties:

- low abrasion
- high wear resistant
- good sliding properties
- high bending ability
- metal detectable

VMX UHMW-PE FG (Food Grade), an EU 10/2011 and FDA 21 CFR § 177.1520 compliant material containing a metal detectable additive, has been specifically tailored for use in the food processing and packaging industries where it can easily be traced by different detection systems installed to detect contamination of the foodstuffs.

Thermal Properties	ISO*			ASTM*		
	Test methods	Units	Indicative values	Test methods	Units	Indicative values
Melting temperature (DSC, 10°C (50°F) / min)	ISO 11357-1/-3	°C	135	ASTM D3418	°F	280
Glass transition temperature (DMA- Tan δ) (2)		°C			°F	
Thermal conductivity at 23°C (73°F)		W/(K.m)			BTU in./(hr.ft ² .°F)	
Coefficient of linear thermal expansion (-40 to 150 °C) (-40 to 300°F)				ASTM E-831 (TMA)	Qin./in./°F	94
Coefficient of linear thermal expansion (23 to 100°C) (73°F to 210°F)		Qm/(m.K)	230			
Heat Deflection Temperature: method A: 1.8 MPa (264 PSI)	ISO 75-1/-2	°C	40	ASTM D648	°F	84
Continuous allowable service temperature in air (20.000 hrs) (3)		°C	80		°F	
Min. service temperature (4)		°C	-150		°F	
Flammability: UL 94 (3 mm (1/8 in.)) (5)			HB			HB
Flammability: Oxygen Index	ISO 4589-1/-2	%				
Mechanical Properties						
Tensile strength	ISO 527-1/-2 (7)	MPa	20	ASTM D638 (8)	PSI	4200
Tensile strain (elongation) at yield	ISO 527-1/-2 (7)	%	16	ASTM D638 (8)	%	18
Tensile strain (elongation) at break	ISO 527-1/-2 (7)	%	50	ASTM D638 (8)	%	260
Tensile modulus of elasticity	ISO 527-1/-2 (9)	MPa	670	ASTM D638 (8)	KSI	120
Shear Strength				ASTM D732	PSI	4600
Compressive stress at 1 / 2 / 5 % nominal strain	ISO 604 (10)	MPa	7/10.5/17			
Compressive strength				ASTM D695 (11)	PSI	3200
Charpy impact strength - unnotched	ISO 179-1/1eU	kJ/m ²	No break			
Charpy impact strength - notched	ISO 179-1/1eA	kJ/m ²	107P			
Charpy impact strength - double 14° notched	ISO 11542-2	kJ/m ²	128			
Izod Impact notched				ASTM D256	ft.lb./in	0
Flexural strength	ISO 178 (12)	MPa	20	ASTM D790 (13)	PSI	2650
Flexural modulus of elasticity	ISO 178 (12)	MPa	660	ASTM D790	KSI	120
Relative volume loss during wear test "sand-slurry" : TIVAR® 1000=100	ISO 2039-2		92	ASTM D785		
Shore Hardness D (14)	ISO 868		62	ASTM D2240		66

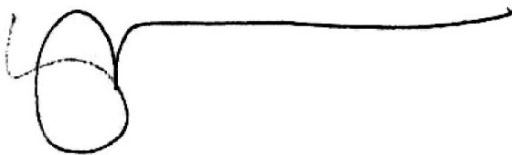
Electronic Properties	ISO*			ASTM*		
	Test methods	Units	Indicative values	Test methods	Units	Indicative values
Electric strength	IEC 60243-1 (15)	kV/mm		ASTM D149	Volts/mil	
Volume resistivity	IEC 62631-3-1	Ohm.cm		ASTM D257	Ohm.cm	
Surface resistivity	ANSI/ESD STM 11.11	Ohm/sq.		ANSI/ESD STM 11.11	Ohm/sq.	10E12
Dielectric constant at 1 MHz	IEC 62631-2-1			ASTM D150		
Dissipation factor at 1MHz	IEC 62631-2-1			ASTM D150		
Miscellaneous						
Colour			Blue			Blue
Density	ISO 1183-1	g/cm ³	10.7			
Specific Gravity				ASTM D792		1.07
Water absorption after 24h immersion in water of 23 °C (73°F)	ISO 62 (16)	%	0.1	ASTM D570 (17)	%	
Water absorption at saturation in water of 23 °C (73°F)		%	0.1	ASTM D570 (17)	%	
Wear rate	ISO 7148-2 (18)	Qm/km	4.5	QTM 55010 (19)	in ³ .min/ft.lbs.hrX10 ⁻¹⁰	
Dynamic Coefficient of Friction (-)	ISO 7148-2 (18)		0.10-0.20	QTM 55007 (20)		
Limiting PV at 100 FPM				QTM 55007 (21)	ft.lbs/in ² .min	5300
Limiting PV at 0.1 / 1 m/s cylindrical sleeve bearings		Mpa.m/s				
Chemical Resistance						

Note: 1 g/cm³ = 1,000 kg/m³ ; 1 MPa = 1 N/mm² ; 1 kV/mm = 1 MV/m NYP: there is no yield point.

This table, mainly to be used for comparison purposes, is a valuable help in the choice of a material. The data listed here falls within the normal range of product properties of dry material. However, they are not guaranteed and they should not be used to establish material specification limits nor used alone as the basis of design.

Please note the handles are made from Non-detectable materials.

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