

# DuraSurf™ ETA

by CROWN PLASTICS

Crown Plastics standard line of **Easy-To-Apply** wear strips and adhesive backed tapes. Each tape product offers excellent abrasion resistance, low coefficient of friction, high impact strength and high performance properties people have come to expect from UHMW. By providing this exceptional material with an adhesive backing, installation time and costs are significantly reduced. No need for bolts or fasteners, no need to countersink. As a matter of fact, **DuraSurf™ ETA** also reduces scrap by 75%. When a standard 1/4" thick sheet of UHMW is installed using the traditional mechanical fastening method, 3/16" of the material is lost to the bolt head. This leaves only a 1/16" usable wear surface. You can achieve the same result with a 1/16" **DuraSurf™ ETA** tape product and eliminate 80% of the time and cost associated with traditional installation methods. Crown Plastics offers a wide range of both rubber and acrylic based adhesive systems to meet virtually any application requirement.



## AVAILABLE THICKNESS

.005" (.125 mm), .010" (.25 mm), .015" (.38 mm), .020" (.5 mm), .031" (.75 mm), .040" (1 mm), .050" (1.3 mm), .062" (1.57 mm), .080" (2 mm), .093" (2.35 mm), .100" (2.5 mm), .125" (3.17 mm)

## AVAILABLE WIDTHS

All dimensions between 1/4" (6.35 mm) and 24" (610 mm)

## UHMW PROPERTIES

- Excellent abrasion and wear resistance
- Very high impact strength
- Meets FDA and USDA guidelines
- No moisture absorption
- Self-lubricating – no need for oils or lubricants
- Excellent noise abatement properties
- Chemical resistance and corrosion resistant
- Maintains performance and properties at -30°C
- Meets ASTM-D-4020-81
- Low coefficient of friction

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MECHANICAL PROPERTIES	ASTM Test	Units Metric (U.S.)	UHMW Thickness Gauges		
			.030"	.060"	.125"
Density	D792	gm/cc	0.93	0.93	0.93
Tensile Strength @ Yield	D638	MPa(psi)	23(3300)	20(2964)	22(3227)
Tensile Strength @ Break	D638	MPa(psi)	53(7740)	49(7056)	44(6373)
Elongation @ Break	D638	%	60	463	466
Youngs "E" Modulus	D638	MPa(psi x 105)	725(1.05)	731(1.06)	672(.097)
Izod Impact Strength	D256 <sup>(1)</sup>	J/m(ft-lb/in notch)	*	*	80(16.8)
Hardness Shore "D"	D2240	-	65	65	65
Water Absorption	D570	%	Nil	Nil	Nil
Rel. Solution Viscosity	D4020	dl/gm	2.3-3.5	2.3-3.5	2.3-3.5
Coefficient of Friction	D1894-96	Static	.16	.16	.16
Coefficient of Friction	D1894-96	Dynamic	.14	.13	.14

(1) Izod Impact: Samples have 2(15° +/- 1/2°) notches on opposite sides to a depth of 5mm

THERMAL PROPERTIES	ASTM Test	Units Metric (U.S.)	UHMW Thickness Gauges		
			.030"	.060"	.125"
Crystalline Melting Range	Polarizing	°C(°F)	136(276)	134(273)	134(273)
Crystallinity	D3417-96	%	48	47	50
Coefficient of Linear Expansion					
20° to 100° C	D696	K <sup>-1</sup>	*	*	1.5 x 10 <sup>-4</sup>
-20° to -100° C	D696	K <sup>-1</sup>	*	*	9.18 x 10 <sup>-5</sup>

ELECTRICAL PROPERTIES	ASTM Test	Units Metric (U.S.)	UHMW Thickness Gauges		
			.030"	.060"	.125"
Volume Resistivity	D257	Ohms/cm	5.9544x10 <sup>7</sup>	1.4516x10 <sup>7</sup>	>2x10 <sup>7</sup>
Dielectric Strength	D150	Kv/cm(V/mil)	*	*	142
Dielectric Constant	D150		2.39	2.29	2.28
Surface Resistivity	D257	Ohms	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>
Static Decay		Seconds	<.01	<.01	<.01
Dissipation Factor					
At 50Hz	D150		*	*	*
At 10KHz	D150		-0.001	-0.002	-0.000
At 5MHz	D150		-0.001	-0.001	0.001

## Comparison of Dynamic Coefficient of Friction on Polished Steel

Material	UHMW-PE	Nylon 6	Nylon 6/6	Nylon MoS2	PTFE	Acetal Polymer
Dry	.10 – .22	.15 – .40	.15 – .40	.12 – .20	.04 – .25	.15 – .35
Water	.05 – .10	.14 – .19	.14 – .19	.10 – .12	.04 – .08	.04 – .20
Oil	.05 – .08	.02 – .11	.02 – .11	.08 – .10	.04 – .05	.05 – .08

\* No reading could be taken due to material thickness



ADVANCED THERMOPLASTIC SOLUTIONS

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