

# DuraSurf™ STS

by CROWN PLASTICS

**DuraSurf™ STS** is a revolutionary product in that it not only possesses a **Silicone Treated Surface**, but is also available with an adhesive backing for easy installation. The very low coefficient of friction provides a lubricated surface that is virtually maintenance free. **DuraSurf™ STS** is an ideal solution for many applications in the package handling industry such as chute linings, slider beds, slides, spirals and numerous other areas where packages can get lodged or damaged. **DuraSurf™ STS** also helps reduce jamming and keep packages moving smoothly to their ultimate destination. **DuraSurf™ STS** is also static dissipative to prevent static shocks and potential damage to bar coding systems. **DuraSurf™ STS** is uniquely available with an adhesive backing to provide easy installation and eliminate the need for mechanical fastening. Die cutting is also available for washers, bushings, wear pads and anti-friction surfaces.



#### AVAILABLE THICKNESS

.031" (.75 mm), .062" (1.57 mm), .093" (2.35 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 (For Conductive Black Only)	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		2.481	2.454	2.542
Surface Resistivity	D257	Ohms	10 <sup>3</sup>	10 <sup>3</sup>	10 <sup>3</sup>
Static Decay		Seconds	<.01	<.01	<.01
Dissipation Factor					
At 50Hz	D150		0.0594	0.0213	0.0082
At 10KHz	D150		0.1085	0.0690	0.0022
At 5MHz	D150		0.1035	0.2340	0.0034

## 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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