DuraSurf™ STS

MECHANICAL PROPERTIES	ASTM Test	Units Metric (U.S.)	STS Thickness Gauges		
			.062"	.093"	.125"
Density	D792	gm/cc	.935	.930	.932
Tensile Strength @ Yield	D638	MPa(psi)	21.1	18.2	20.1
Tensile Strength @ Break	D638	MPa(psi)	26.4	19.0	23.4
Elongation @ Break	D638	%	156	92.4	92.0
Youngs "E" Modulus	D638	MPa(psi x 105)	558	542	715
Izod Impact Strength	D256 (1)	J/m(ft-lb/in notch)	*	*	328
Hardness Shore "D"	D2240	-	64	63	64
Water Absorbtion	D570	%	.01	.03	.02
Rel. Solution Viscocity	D4020	dl/gm	2.3-3.5	2.3-3.5	2.3-3.5
Coefficient of Friction	D1894-96	Static	.185	.185	.185
Coefficient of Friction	D1894-96	Dynamic	.109	.109	.109

(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.)	STS Thickness Gauges		
			.062"	.093"	.125"
Coefficient of Linear Expansion					
20° to 100° C	D696	µm/m- °C	199	205	210
–20° to –100° C	D696	µm/m- °C	122	177	113

COMPARATIVE TEST - Coefficient of Friction of Cartons on Various Substrates w/ Galvanized Steel as Baseline for Performance*

Substrate	Coefficent	Difference	% Improvement
Galvanized	0.557	0	0%
Mild Steel	0.423	0.134	24%
UHMW	0.369	0.188	34%
STS	0.283	0.274	49%

Methodology: Static friction at varying angles of response

UHMW THERMAL PROPERTIES	ASTM Test	Units Metric (U.S.)	UHMW Thickness Gauges		
			.031"	.062"	.125"
Crystalline Melting Range	Polarizing	°C(°F)	136 (276)	134 (273)	134 (273)
Crystallinity	D3417-96	%	48	47	50

UHMW ELECTRICAL PROPERTIES	ASTM Test	Units Metric (U.S.)	UHMW Thickness Gauges		
(For Conductive Black Only)			.031"	.060"	.125"
Volume Resistivity	D257	Ohms/cm	5.9544×10^7	1.4516×10^7	$>2 \times 10^7$
Dielectric Strength	D150	Kv/cm(V/mil)	*	*	142
Dielectric Constant	D150		2.481	2.454	2.542
Surface Resistivity	D257	Ohms	10^3	10^3	10^3
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