

DuraSurf™ ASC-FDA

by CROWN PLASTICS

Crown Plastics **DuraSurf™ ASC-FDA** is an anti-static conductive UHMW material that meets FDA, USDA and 3A-Dairy compliance standards for direct food contact. **DuraSurf™ ASC-FDA** eliminates static build up that can occur in powder, sugar and grain conveying as well as providing excellent noise abatement. The self lubricating and corrosion resistant properties make it an ideal solution in many conveying and food processing applications. **DuraSurf™ ASC-FDA** is available with adhesive backing for easy installation.



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

DuraSurf™ ASC-FDA

by CROWN PLASTICS

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 ⁽¹⁾	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 ⁻¹	*	*	1.5 x 10 ⁻⁴
-20° to -100° C	D696	K ⁻¹	*	*	9.18 x 10 ⁻⁵

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 ⁷	1.4516x10 ⁷	>2x10 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

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

Crown Plastics Co., Inc.
116 May Drive • Harrison, Ohio 45030 USA
800-368-0238 • www.CrownPlastics.com