

## HYDLAR® Z Nylon (Engineering Thermoplastic Composite Reinforced with Pultruded Aramid Fiber)

HYDLAR® possesses a combination of physical properties that cannot be found in any other commercially available engineered plastic. Design engineers have created a family of superior wear and abrasion resistant thermoplastics using aramid fiber reinforcement. HYDLAR® possesses a combination of physical properties that cannot be found in any other commercially available engineered plastic. Design engineers have created a family of superior wear and abrasion resistant thermoplastics using aramid fiber reinforcement making it an excellent alternative where high strength, extreme wear resistance and low abrasiveness are required.

HYDLAR® is applicable to a wide variety of industrial applications where high strength, extreme wear resistance and low abrasiveness are required. Typical applications would be wear strips, bearings, bushings, rollers, gears and wherever wear and abrasion resistant materials are required.

- **HYDLAR® Z** (Nylon / Aramid Fiber composite)
- **HYDLAR® ZT** (Nylon / Aramid Fiber / PTFE composite)
- **HYDLAR® ZM** (Nylon / Aramid Fiber / Molybdenum Disulphide composite)

Properties	ASTM Test	Units	Hydlar® Z
<b>Physical</b>			
Density	D792	lbs/in <sup>3</sup>	-
Specific Gravity	D792	g/cc	1.16
Water Absorption, @ 24 hours	D570	%	0.8
Water Absorption, @ Saturation			6.3
<b>Mechanical</b>			
Tensile Strength @ Yield	D638	psi	16,000
Tensile Modulus	D639	psi	1,300,000
Elongation @ Break	D638	%	-
Flexural Strength	D790	psi	23,000
Flexural Modulus	D790	psi	900,000
Compressive Strength	D695	psi	19,300
@ 1% Strain			-
@ 2% Strain			-
Compressive Modulus	D695	psi	-
Izod Impact Strength	D256	ft-lbs/in	2.7
Rockwell Hardness	D785	M or R Scale	-
Shore Hardness	D785	M Scale	-
Wear Factor Against Steel, 40 psi, 50 fpm	D3702	-	-
Static Coefficient of Friction			-
Dynamic Coefficient of Friction, 40 psi, 50 fpm			-

Properties	ASTM Test	Units	Hydlar® Z
<b>Thermal</b>			
Heat Deflection Temperature @ 66 psi @ 264 psi	D648	°F	- 470
Coefficient of Linear Thermal Expansion	D696	in/in/°F	1.6 x 10 <sup>-5</sup>
Maximum Servicing Temperature Intermittent Long Term	- UL746B	°F °F	- 300
Specific Heat	-	BTU/lb-°F	-
Thermal Conductivity	-	-	-
Vicat Softening Point	-	°F	-
Melting Point	D2133	°F	-
Flammability	UL 94	(mm)	-
<b>Electrical</b>			
Surface Resistivity	D257	ohm/square	-
Volume Resistivity		ohm-cm	-
Dielectric Strength	D149	V/mil	-
Dielectric Constant			
@ 60 Hz, 70° F, 50% RH	D150	-	-
@ 1 MHz		-	-
@ 20 GHz		-	-
@ 30 GHz		-	-
Dissipation Factor @ 60 Hz, 70° F	D150	-	-

*NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets. All values at 73°F (23°C) unless otherwise noted.*