

HYDLAR®

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

- **High Strength Rods and Plates**
- **Extremely Wear Resistant**
- **Increased Surface Temperature Capability**
- **Highly Resistant to Abrasion**
- **No Galling of Mating Wear Surfaces**
- **Good Dimensional Stability**
- **Outstanding Machinability**

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.

TYPICAL PROPERTY VALUES

PROPERTIES	Test Methods	Units	Injection Molded & Extruded			
			Nylon 6/6	Nylon 6/6 30% GF	HYDLAR® Z	
PHYSICAL	Base Material	-	-	None	Glass	Aramid
	Content	-	%	0%	30%	N/A
	Specific Gravity 73°F	D792	-	1.14	1.38	1.16
	Water Absorption 24 hrs	D570	%	1.2	.7	.8
	Water Absorption Saturation 73°F	D570	%	-	-	-
				8.5	5.4	6.3
MECHANICAL	Tensile Strength	D638	psi x 10 ³	12.0	27.0	16.0
	Tensile Modulus	D638	psi x 10 ⁶	-	1.5	1.3
	Elongation	D638	%	66.0	3.0	4.0
	Flexural Strength	D790	psi x 10 ³	17.4	-	23.0
	Flexural Modulus	D790	psi x 10 ⁶	.41	1.3	0.9
	Notched Izod Impact	D256	ft lbs/in	1.0	2.0	2.7
	Compressive Strength	D695	psi x 10 ³	13.0	24.0	19.3
	Wear Factor***	D3702	-	860 to 1100	424	79 - 128
	Galling of Mating Test Surface	-	-	Minor	Severe	None
	THERMAL	Heat Deflection Temp. 264 psi	D648	° F	194	180
Continuous Use Temp.		-	° F	210	230	300
Coefficient of Linear Thermal Expansion		D696	in / in /°F	4.0 x 10 ⁻⁵	1.3 x 10 ⁻⁵	1.6 x 10 ⁻⁵

***ASTM Thrust Washer Test: PV=2,500 P=250PSI V=10 f.p.m.

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MATERIAL AVAILABILITY

Rods: Diameters: 1/4" - 6"

Length: Dia. 1/4" to 4-3/4", - 10 ft.
Dia. 5.0" and greater - 5 ft.

Plates: 1/4" - 2" thick 24" x 48"

Shapes Specification (Typical)

Primary Specification (Resin) (Typical)

Profiles, tubes, and special sizes are custom-produced on request.



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