

## **TECAST VEKTON™** **(Cast nylon)**

TECAST VEKTON™ cast nylon, available in a variety of grades, offers a combination of good mechanical properties, excellent bearing and wear characteristics, and the large-size capabilities of the casting process. Its fatigue resistance, noise damping ability, corrosion resistance, and lightweight make TECAST VEKTON™ ideal for metal replacement applications, such as bearings, gears, sheaves, and sprockets. At one-eighth the weight of bronze, TECAST VEKTON™ is easier to handle and maintain than metals such as iron, aluminum, brass, and bronze, which it typically replaces in industrial wear applications.

Other materials that TECAST VEKTON™ commonly replaces because of its superior performance are laminated phenolics, elastomers, and wood. TECAST VEKTON™ has excellent wear and abrasion resistance, resulting in extended component life and lower maintenance cost. Its formulations are readily available in rod, plate, and tube. Nonstandard shapes, such as rings, discs, and blocks can be economically produced in small quantities with short lead times. Custom parts can be cast-to-size or near-net-shape with relatively inexpensive tooling.

### **TECAST VEKTON™ 6PA NATURAL**

An FDA-compliant cast type 6 nylon used in applications requiring cast nylon advantages without fillers.

### **TECAST VEKTON™ 6PA BLACK**

A black cast type 6 nylon that is more UV resistant than 6PA natural.

### **TECAST VEKTON™ 6PA BLUE**

A blue cast type 6 nylon with properties similar to 6PA natural.

### **TECAST VEKTON™ 6PAM**

A molybdenum disulfide-filled cast type 6 nylon used for general bearings and wear applications because of its superior strength and hardness.

### **TECAST VEKTON™ 6PAG**

A graphite powder-filled cast type 6 nylon with properties similar to 6PAM but better suited to wet applications.

### **TECAST VEKTON™ 6XAU**

A high heat (up to 260°F continuous), weather resistant cast type 6 nylon with superior fatigue-resistance and bearing properties.

### **TECAST VEKTON™ 6PAL**

An oil-filled cast type 6 nylon used in applications requiring excellent bearing and wear properties where external lubrication is difficult or impractical.

Its unique combination of strength, wear resistance, toughness, machinability, and corrosion resistance make TECAST VEKTON™ cast nylon ideal for bearings, thrust washers, bushings, wear pads, sheaves, rollers, gears, sprockets, and wheels. TECAST VEKTON™ is commonly used in construction equipment, material handling systems, amusement park rides, pulp and paper processing equipment, steel mills and industrial equipment.

#### **Primary Specification (Typical)**

6PA: L-P-410a

6PAM: L-P-410a Wear Resistant

#### **Shapes Specification (Typical)**

6PA: ASTM-D-5989 S-PA0211 6PAL: ASTM-D-5989 S-PA0251

6PAM: ASTM-D-5989 S-PA0221

Properties	ASTM Test Method	Units	Tecast Vekton® 6PA	Tecast Vekton® 6XAU	Tecast Vekton® 6PAM, 6PAG	Tecast Vekton® 6PAL
<b>Physical</b>						
Density	D792	lbs/in <sup>3</sup>	.0416-.0419	.0416-.0419	.0416-.0423	.0412-.0416
Specific Gravity	D792	g/cc	1.15 - 1.16	1.15 - 1.16	1.15 - 1.17	1.14 - 1.15
Water Absorption, @ 24 hours, 73°F	D570	%	1.2	1.2	1.2	.75
<b>Mechanical</b>						
Tensile Strength @ Yield, 73°F	D638	psi	10,000	11,000	11,000	8,800
Tensile Modulus	D639	psi	350,000	350,000	350,000	350,000
Elongation @ Break, 73°F	D638	%	25	20	20	25
Flexural Strength, 73°F	D790	psi	12,500	12,500	12,500	12,500
Flexural Modulus, 73°F	D790	psi	350,000	350,000	350,000	325,000
Izod Impact Strength, 73°F	D256	ft-lbs/in	.6	.7	.6	1.2
Rockwell Hardness, 73°F	D785	R Scale	115	115	115	100
Wear Factor Against Steel, 40 psi, 50 fpm	D3702	in <sup>3</sup> /hr x 1/PV	200 x 10 <sup>-10</sup>	-	-	-
Dynamic Coefficient of Friction, 40 psi, 50 fpm	D3702	-	.26	-	-	-
<b>Thermal</b>						
Heat Deflection Temperature @ 66 psi	D648	°F	370	370	370	-
	D648	°F	200	200	200	-
Heat Deflection Temperature @ 264 psi						
Coefficient of Linear Thermal Expansion	D696	in/in/°F	4.0 x 10 <sup>-5</sup>	4.0 x 10 <sup>-5</sup>	4.0 x 10 <sup>-5</sup>	4.0 x 10 <sup>-5</sup>
Maximum Servicing Temperature, Intermittent	-	°F	300	350	300	330
	UL746B	°F	200	260	200	200
Long Term						
Specific Heat	-	BTU/lb-°F	.40	-	-	-
Thermal Conductivity	-	-	1.67	-	-	-
Melting Point	D2133	-	428	-	-	-
Flammability	UL94	-	HB	-	-	-
<b>Electrical</b>						
Volume Resistivity	D257	ohm-cm	10 <sup>14</sup>	10 <sup>14</sup>	-	-
Dielectric Strength	D149	V/mil	500	500	500	-
Dielectric Constant, @ 60 Hz, 73°F, 50% RH	D150	-	3.7	3.7	3.7	-

*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.*