



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 light weight 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

TYPICAL PROPERTY VALUES

| PROPERTIES | ASTM Test Method | Units | Tecast Vekton® 6PA | Tecast Vekton® 6XAU | Tecast Vekton® 6PAM 6PAG | Tecast Vekton® 6PAL | |
|---|---|--------------------------------------|-------------------------------------|-------------------------|--------------------------|------------------------|------------------------|
| PHYSICAL | Density | D792 | lbs/in ³ | .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 |
| | @ Saturation, 73°F | D570 | % | - | - | - | - |
| MECHANICAL | 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 |
| | Compressive Strength | D695 | psi | - | - | - | - |
| | 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 |
| | Shure Hardness | - | D Scale | - | - | - | - |
| | Wear Factor Against Steel, 40 psi, 50 fpm | D3702 | in ³ x $\frac{1}{hr}$ PV | 200 x 10 ⁻¹⁰ | - | - | - |
| | Static Coefficient of Friction | D3702 | - | - | - | - | - |
| | Dynamic Coefficient of Friction, 40 psi, 50 fpm | D3702 | - | .26 | - | - | - |
| | THERMAL | Heat Deflection Temperature @ 66 psi | D648 | °F | 370 | 370 | 370 |
| @ 264 psi | | D648 | °F | 200 | 200 | 200 | - |
| Coefficient of Linear Thermal Expansion | | D696 | in/in/°F | 4.0 x 10 ⁻⁵ | 4.0 x 10 ⁻⁵ | 4.0 x 10 ⁻⁵ | 4.0 x 10 ⁻⁵ |
| Maximum Servicing Temperature, Intermittent | | - | °F | 300 | 350 | 300 | 330 |
| Long Term | | UL746B | °F | 200 | 260 | 200 | 200 |
| Specific Heat | | - | BTU/lb-°F | .40 | - | - | - |
| Thermal Conductivity | | - | - | 1.67 | - | - | - |
| Vicat Softening Point | | - | °F | - | - | - | - |
| Melting Point | | D2133 | °F | 428 | 428 | 428 | 428 |
| Flammability | | UL94 | - | HB | - | - | - |
| ELECTRICAL | Surface Resistivity | D257 | ohm/square | - | - | - | - |
| | Volume Resistivity | D257 | ohm-cm | 10 ¹⁴ | 10 ¹⁴ | - | - |
| | Dielectric Strength | D149 | V/mil | 500 | 500 | 500 | - |
| | Dielectric Constant, @ 60 Hz, 73°F, 50% RH | D150 | - | 3.7 | 3.7 | 3.7 | - |
| | @ 1 MHz | D150 | - | - | - | - | - |
| | @ 20 GHz | D150 | - | - | - | - | - |
| | @ 30 GHz | D150 | - | - | - | - | - |
| Dissipation Factor, @ 60 HZ, 73°F | D150 | - | - | - | - | - | |

This information is only to assist and advise you on current technical knowledge and is given without obligation or liability. All trade and patent rights should be observed. All rights reserved. Data obtained from extruded shapes material.

MATERIAL AVAILABILITY

Rods: Diameters: 2" - 8" diameter, 4' length
9" to 20" diameter, 12' length

Plates: 1/4" to 4" thickness inclusive are 2' x 4', 4' x 4' and 4' x 8'
3/8" and greater also available in 4' x 8'

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

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



ENSINGER-HYDE

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Division of Ensinger, Inc.

HEADQUARTERS
365 Meadowlands Boulevard
Washington, Pennsylvania 15301

Telephone: 800-243-3221 *Sales*
800-869-4029 *Technical*
Fax: 724-746-9209

e-mail: sales@ensinger-ind.com

CANADA
Ensinger-Plastifab
8115 Lafrenais Street
Montreal, Quebec H1P 2B1

Telephone: 514-325-9840
Fax: 514-325-5222

Web site: www.plastifab.ca
e-mail: infoprod@plastifab.ca

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