

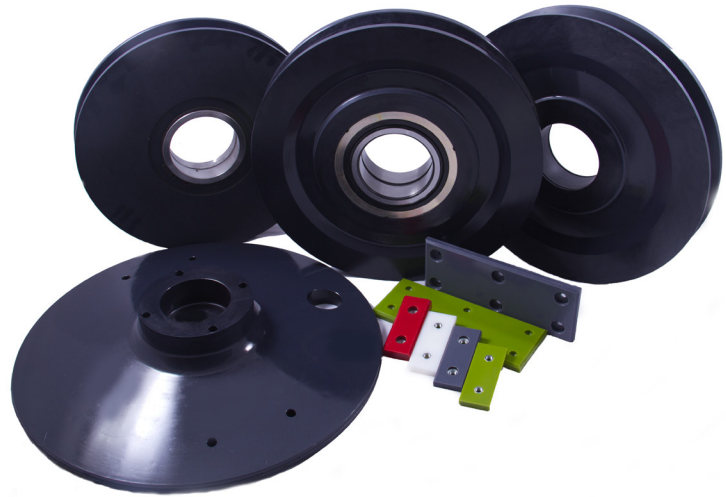
CAST NYLONS LIMITED

Discover the NYCAST® Advantage

Stock Shapes & Custom Cast Products



Custom Cast Construction Equipment



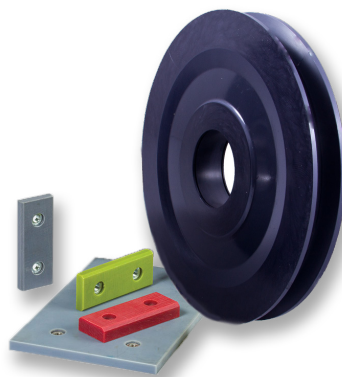
Sheaves, Outrigger Pads & Slide Pads

NYCAST Custom Cast sheaves offer some very important advantages to the equipment designer searching for ways to reduce component weights, improve service life of the wire rope, and provide protection against corrosive environments at a cost which is very competitive with other sheave materials. NYCAST sheaves are custom formulated and cast in the anionic polymerization process of caprolactame to form Nylon Type 6, yielding a technologically advanced part, free from localized stresses which occur in most other plastics processing methods.

In addition, NYCAST sheaves can be specifically formulated with modifiers and internal lubricant packages appropriate to the end use which further enhance performance.

Advantages:

- Reduced Component Weight
- Improved Service Life
- Corrosion Protection
- Custom Engineered



Materials Selector Guide



NYCAST®, NYLOIL® & NYMETAL® Grades

Standard Grades - for bearings, bushings, seals, die blocks, wear pads

- **NYCAST 6PA Natural** - tough, hard, resilient, high strength, for all around use; use for direct food contact
- **NYCAST XHA Blue** - extra heat resistance over 6PA Natural
- **NYCAST MoS₂** - improved wear resistance and higher crystallinity

Premium Bearing Grades - offering improved wear properties as much as five times longer life than unfilled grades

- **NYLOIL** - oil-filled, low coefficient of friction, excellent bearing material
- **NYLOIL FG** - oil-filled, low coefficient of friction, can be used in direct food contact
- **NYCAST MDX** - oil-filled + MoS₂, low coefficient of friction, higher crystallinity
- **NYCAST RX/GX/BX** - solid lubricant-filled, low coefficient of friction for high load, low speeds

Impact Modified Grades - manufactured to improve impact properties in cold temperatures or high impact areas

- **NYCAST CP** - solid impact modified copolymer, added toughness over standard 6PA Natural
- **NYCAST MP** - liquid impact modified, tailored for high impact applications as in cushion pads

Specialty Grades

- **NYCAST 12** - high impact resistance, low moisture absorption, excellent dimensional stability, higher dielectric properties
- **NYCAST NYMETAL** - nylon bonded to metal cores creates excellent nylon-metal interface for higher torque loading
- **NYCAST Colors** - 13 colors of nylon 6 to choose from to allow color-coding of components

Product Specifications

| Property | Units | ASTM Test Method | NYCAST® 6PA | NYCAST® 6PA MoS ₂ |
|------------------------------------------------|-------------------|------------------|------------------------|------------------------------|
| Specific Gravity | g/cm ³ | D 792 | 1.15 - 1.17 | 1.15 - 1.17 |
| Tensile Strength | psi | D 638 | 10,000 - 13,500 | 10,000 - 13,500 |
| Tensile Elongation | % | D 638 | 20 - 55 | 20 - 55 |
| Tensile Modulus | psi | D 638 | 400,000 - 550,000 | 400,000 - 550,000 |
| Compressive Strength | psi | D 695 | 13,500 - 16,000 | 14,000 - 16,500 |
| Compressive Modulus | psi | D 695 | 325,000 - 400,000 | 345,000 - 425,000 |
| Flexural Strength | psi | D 790 | 15,000 - 17,500 | 15,000 - 18,000 |
| Flexural Modulus | psi | D 790 | 420,000 - 500,000 | 400,000 - 520,000 |
| Shear Strength | psi | D 732 | 10,000 - 11,000 | 10,000 - 11,000 |
| Notched Izod Impact | ft.lbs/in. | D 256 | 1.5 - 2.5 | 1.4 - 2.4 |
| Hardness Rockwell | R | D 785 | 110 - 115 | 110 - 120 |
| Hardness, Shore | D | D 2240 | 78 - 84 | 78 - 86 |
| Melting Point | °F | D 3418 | 430 +/- 10 | 430 +/- 10 |
| Coefficient of Linear Thermal Expansion | in./in./°F | D 696 | 5.0 * 10 ⁻⁵ | 5.0 * 10 ⁻⁵ |
| Deformation Under Load | % | D 621 | 0.5 - 2.5 | 0.5 - 2.6 |
| Deflection Temperature | | | | |
| 264 psi | °F | D 570 | 200 - 300 | 200 - 300 |
| 66 psi | °F | D 570 | 300 - 400 | 300 - 400 |
| Continuous Service Temperature | °F | - | 230 | 230 |
| Intermittent Service Temperature | °F | - | 330 | 330 |
| Coefficient of Friction, Dynamic | | D 1894 | 0.26 | 0.22 |
| Water Absorption | | | | |
| 24 hours | % | D 570 | 0.5 - 0.6 | 0.5 - 0.6 |
| Saturation | % | D 570 | 4.0 - 6.0 | 4.0 - 6.0 |
| Dielectric Strength | v/mil. | D 149 | 500 - 600 | 500 - 600 |
| Dielectric Constant | | | | |
| 60 Hz | | D 150 | 3.7 | 3.7 |
| 1000 Hz | | D 150 | 3.7 | 3.7 |
| 1 MHz | | D 150 | 3.7 | 3.7 |
| Compliance | | | | |
| FDA | | | X | - |
| USDA 3A | | | X | - |
| UL 94 HB | | | X | X |

| Property | Units | ASTM Test Method | NYCAST® XHA | NYCAST® NYLOIL® |
|-----------------------------------------|-------------------|------------------|------------------------|------------------------|
| Specific Gravity | g/cm ³ | D 792 | 1.15 - 1.17 | 1.14 - 1.15 |
| Tensile Strength | psi | D 638 | 10,000 - 13,500 | 9,500 - 11,000 |
| Tensile Elongation | % | D 638 | 20 - 30 | 35 - 55 |
| Tensile Modulus | psi | D 638 | 450,000 - 550,000 | 375,000 - 475,000 |
| Compressive Strength | psi | D 695 | 13,500 - 16,000 | 13,500 - 15,000 |
| Compressive Modulus | psi | D 695 | 325,000 - 400,000 | 325,000 - 375,000 |
| Flexural Strength | psi | D 790 | 15,000 - 17,500 | 14,000 - 16,000 |
| Flexural Modulus | psi | D 790 | 420,000 - 500,000 | 375,000 - 475,000 |
| Shear Strength | psi | D 732 | 10,000 - 11,000 | 8,000 - 9,000 |
| Notched Izod Impact | ft.lbs/in. | D 256 | 1.0 - 2.5 | 1.4 - 1.8 |
| Hardness Rockwell | R | D 785 | 110 - 120 | 100 - 115 |
| Hardness, Shore | D | D 2240 | 78 - 86 | 74 - 80 |
| Melting Point | °F | D 3418 | 430 +/- 10 | 430 +/- 10 |
| Coefficient of Linear Thermal Expansion | in./in./°F | D 696 | 5.0 × 10 ⁻⁵ | 5.0 × 10 ⁻⁵ |
| Deformation Under Load | % | D 621 | 0.5 - 2.6 | 0.7 - 3.0 |
| Deflection Temperature | | | | |
| 264 psi | °F | D 570 | 200 - 400 | 200 - 300 |
| 66 psi | °F | D 570 | 300 - 450 | 300 - 400 |
| Continuous Service Temperature | °F | - | 250 | 230 |
| Intermittent Service Temperature | °F | - | 350 | 330 |
| Coefficient of Friction, Dynamic | | D 1894 | 0.26 | 0.12 |
| Water Absorption | | | | |
| 24 hours | % | D 570 | 0.5 - 0.6 | 0.4 - 0.6 |
| Saturation | % | D 570 | 4.0 - 6.0 | 4.0 - 5.0 |
| Dielectric Strength | v/mil. | D 149 | 500 - 600 | 500 - 600 |
| Dielectric Constant | | | | |
| 60 Hz | | D 150 | 3.7 | 3.7 |
| 1000 Hz | | D 150 | 3.7 | 3.7 |
| 1 MHz | | D 150 | 3.7 | 3.7 |
| Compliance | | | | |
| FDA | | | - | - |
| USDA 3A | | | - | - |
| UL 94 HB | | | X | X |

| NYCAST® NYLOIL® MDX | NYCAST® RX/GX/BX | NYCAST® SLX | NYCAST® CP | NYCAST® 6 MPD/6 MPY |
|----------------------|----------------------|----------------------|----------------------------|----------------------|
| Blue 1.14 - 1.15 | 1.14 - 1.15 | 1.12 - 1.14 | 1.10 - 1.13 | 1.14 - 1.16 |
| 10,500 - 11,000 | 11,000 - 11,200 | 10,000 - 11,000 | 9,000 - 11,000 | 9,000 - 11,000 |
| 35 - 45 | 35 - 100 | 20 - 45 | 25 - 40 | 25 - 35 |
| 425,000 - 475,000 | 495,000 - 525,000 | 400,000 - 475,000 | 375,000 - 475,000 | 375,000 - 475,000 |
| 13,500 - 14,000 | 13,000 - 14,500 | 14,000 - 16,500 | 12,000 - 14,000 | 12,500 - 15,000 |
| 325,000 - 375,000 | 390,000 - 410,000 | 345,000 - 425,000 | 275,000 - 375,000 | 300,000 - 375,000 |
| 15,500 - 16,000 | 14,000 - 14,500 | 13,500 - 16,000 | 13,000 - 16,000 | 12,000 - 13,000 |
| 425,000 - 475,000 | 400,000 - 450,000 | 350,000 - 475,000 | 325,000 - 475,000 | 300,000 - 360,000 |
| 8,000 - 9,000 | 8,000 - 9,000 | 8,000 - 9,000 | 7,500 - 9,000 | 7,500 - 10,000 |
| 1.4 - 1.8 | 1.4 - 1.8 | 1.4 - 1.8 | 2.0 - 4.0 | 2.5 - 6.0 |
| 110 - 115 | 110 - 115 | 100 - 115 | 100 - 110 | 95 - 110 |
| 74 - 80 | 74 - 80 | 74 - 80 | 74 - 80 | 70 - 80 |
| 430 +/- 10 | 430 +/- 10 | 430 +/- 10 | 400 +/- 10 | 430 +/- 10 |
| 5.0×10^{-5} | 5.0×10^{-5} | 5.0×10^{-5} | $4.0 - 5.0 \times 10^{-5}$ | 5.0×10^{-5} |
| 0.7 - 0.8 | 0.7 - 3.0 | 0.7 - 3.0 | 1.0 - 3.0 | 1.0 - 3.0 |
| 200 - 300 | 200 - 300 | 200 - 300 | 200 - 300 | 200 - 300 |
| 300 - 400 | 300 - 400 | 300 - 400 | 300 - 400 | 300 - 400 |
| 230 | 230 | 230 | 210 | 230 |
| 330 | 330 | 330 | 300 | 330 |
| 0.12 | 0.12 | 0.14 | 0.26 | 0.26 |
| 0.4 - 0.6 | 0.4 - 0.5 | 0.5 - 0.6 | 0.2 - 0.3 | 0.5 - 0.6 |
| 4.0 - 5.0 | 4.0 - 5.0 | 4.0 - 6.0 | 3.0 - 5.0 | 4.0 - 6.0 |
| 500 - 600 | 500 - 600 | 500 - 600 | 500 - 600 | 500 - 600 |
| 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| | - | - | - | - |
| | - | - | - | - |
| | X | X | X | X |

Curbell Plastics is a proud supplier of Cast Nylons materials.

**Four Facilities on Hamann
Parkway in Willoughby, Ohio**

Commercial Operations

4429 Hamann Parkway
Willoughby, OH 44094
800-543-3619

**Manufacturing
Services Center**

4413 Hamann Parkway
Willoughby, OH 44094

Casting Operations

4300 Hamann Parkway
Willoughby, OH 44094

Logistics Center

4366 Hamann Parkway
Willoughby, OH 44094

Mexico

**Cast Nylons de México S
de RI de CV**

Eje 126 No. 216 Int. #17
Zona Industrial
San Luis Potosí, SLP
C.P. 78395
+52-444-824-0864



4300 Hamann Parkway | Willoughby, OH 44094
Telephone: 800-543-3619 Fax: 440-269-2323
International: +1-440-269-2300 Email: cnlmail@castnylon.com

The facts stated and recommendations contained herein are based on experiments and information to be reliable. No guarantee is made of the accuracy, however, and the products are sold without warranty, expressed or implied, and upon the conditions that purchasers shall conduct tests to determine suitability for their intended use.



Certified To
ISO 9001:2015

