

COATED BEARINGS

RINGS

MERIDIAN LABORATORY PRESENTS ML6

WIRE
FEED
DRIVERS

COATED
SHAFTS



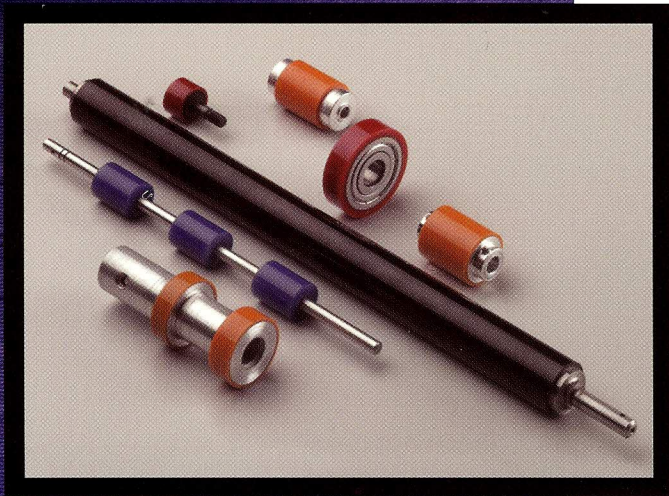
TRADING
CARD
FEEDERS

1/16 x 3/32
KEYWAY

FILM DRIVE
ROLLERS

HIGH FRICTION MATERIAL

PAPER FEEDERS



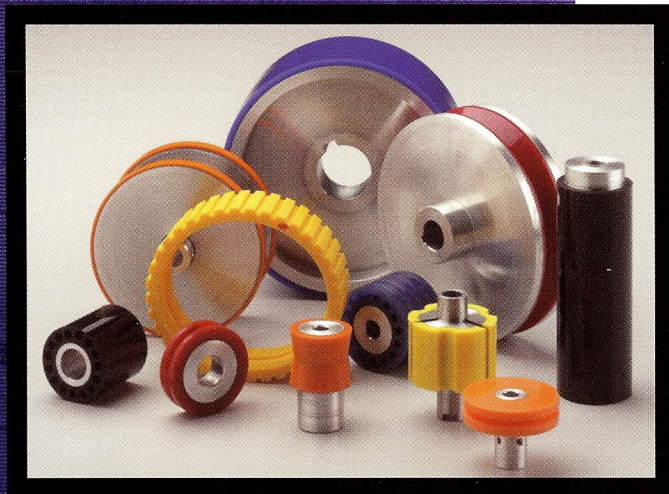
If you design and/or manufacture parts that drive, idle, or brake, then you should know about the science of ML6. ML6 is a urethane-class material that has been scientifically-formulated for exceptionally high-friction and high-wearability characteristics. As a result, parts molded from ML6 have been successfully implemented in a wide range of mechanical rotation applications.

ML6 has demonstrated superior friction and wear characteristics compared to rubber, nylon, or other plastic-like materials. Metal parts coated with ML6 wear so well, they often outlast the machines themselves.

The Science of ML6

ML6 is an extremely versatile compound that can be formulated to fit virtually any drive application. Each compound is carefully engineered for specific properties of hardness, elongation, compression, tear, and rebound. This scientific formulation assures that every ML6 part will perform to customer specification.

Parts made from ML6 are precisely molded. As a result, they require no finish grinding whatsoever. Grinding tends to open the grain of plastic compounds, causing a much steeper rate of part degradation or deterioration. Eliminating the necessity of grinding significantly improves the friction and wear characteristics of ML6 parts. They are also available in a wide range of colors and hardnesses.



Factor Better Parts Into Precision Friction Applications

Here's how Meridian Laboratory provided solutions to manufacturer's problems:

Film Drive Wheel

Problem:

Too much downtime on the film processing machine wheel. Drive wheel needed to be long-wearing with no sacrifice in critical tolerances.

Solution:

Meridian's ML6-55 Shore A Material was molded onto the aluminum substrate provided by the customer. The result was increased wearability and consistent high tolerances on the O.D.

Encoder Idler Bearing

Problem:

In order to achieve O.D. accuracy, the idler bearing previously required bearing disassembly and post-grinding. Slipping occurred during encoding.

Solution:

Meridian's molding technology and meticulous surface preparation allowed the bearing to be coated with a high coefficient of friction (ML6-40A) material without disassembly or subsequent grinding. The result was a better encoder between wheel and web material being measured.

Capstan Roller

Problem:

Previous material on capstan was breaking loose from metal substrate, causing eccentricity in coated diameter.

Solution:

Meridian's special treatment of only the surface area which is to be coated makes the bond between the substrate and Material ML6 stronger than the ML6 itself. The result is that even anodized parts can be molded with Material ML6.

Paper Converting Drive Roller

Problem:

O.D. eccentricity and excessive wear in paper material processing machine.

Solution:

Meridian's progressive molding technique, no post-grinding, put a crown to the shape of the roller holding O.D. tolerances to less than .001 T.I.R. The paper pulled straighter and significantly increased the life of the part.

Hi-Speed Video Tape Winder Drive Roller

Problem:

Excessive wrap on the roller due to the speed.

Solution:

Meridian lowered the durometer and put a matte finish to the O.D. surface, creating air gap. The result was the correct wrap and increase of wear tenfold.

From prototypes to short-to-medium-run production parts, Meridian Laboratory has the solutions for today's manufacturing needs.

MATERIAL ML6 HIGH-FRICTION PRECISION-MOLDED PARTS

PHYSICAL PROPERTIES

STANDARD COLOR CODING

COMPOUND NUMBER	ML6-40	ML6-55	ML6-70	ML6-80	ML6-90	ML6-60D
Hardness, Shore A±5	40	55	70	80	90	
Shore D						60
Ultimate Elongation, %	600	590	615	650	550	430
Ultimate Tensile, psi	1,500	3,500	6,500	6,500	6,500	8,000
Tear Strength, pli						
Die "C"	90	128	370	420	650	1,250
Split	17	34	200	250	400	550
Compression Modulus, psi						
10% Deflection	-	-	200	300	635	1,350
Compression Set "B", %						
22 Hrs. @ 158° F	2.0	1.7	25	25	28	29
Bashore Rebound, %						
@ 78° F	21	-	24	32	28	32

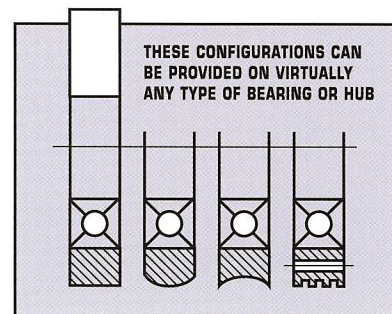
- Designer's Notes:**
1. As hardness increases, wear resistance increases and friction decreases.
 2. ±.001 ML6 diameter tolerance and .001 ML6 flatness can be readily attained if coating thickness is 1/32 to 1/8 inch per side. 1/16 inch per side ML6 coating is ideal for any round part.
 3. Knurls, undercuts, or grooves on the core are not necessary since adhesive is utilized to bond ML6 to the core.

FEATURES

- Urethane-class material
- Convex, concave, flat stock, and notched forms
- Highly stable – proven by thirty years of actual use
- Does not mark or contaminate
- .001 T.I.R. or better on O.D.
- Hardness range: 40 Shore A to 65 Shore D
- Operating temperature range: -40° F to +200° F
- Coatings available in a wide assortment of colors
- Meridian will produce cores or coat those you supply
- Stripping and recoating of parts
- Applicable to all metals
- Ideally suited to prototyping and production quantities

AS CONCENTRIC AS THE PRECISION PART OR BEARING IT RIDES ON

- ML6 on bearings, metal hubs, balls, rollers, needles, and sleeves
- Straight, concave, convex, and other configurations
- .001 T.I.R. or better on ML6 O.D. without grinding
- No bearing disassembly required
- Coated to exact size + .001 in diameter normal



QUOTATION AND ORDERING INFORMATION

ML6 coatings are determined by customer specific needs. Mail or fax your requirements along with a sketch of your part for a prompt quotation.



MERIDIAN
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Solving problems in mechanical rotation

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