

UHMW-PE Heat Shrinkable Roll Covers (trade named FLUORO-WEAR 402) can be installed at the paper mill like roll covers of *Teflon*® FEP, but they wear 30 times longer. Application over rusted, pitted steel rolls, fiberglass or rubber covered rolls are acceptable. Even segmented bowed rolls are an ideal application for this product.

Ultra High Molecular Weight Polyethylene (UHMW-PE) has a molecular weight of 3-6 million, as compared to pipe grade high-density polyethylene, with a molecular weight of 600,000. UHMW-PE is the toughest plastic known with no breakage in standard izod impact tests. Fluoron, Inc. has a patent on heat shrinkable UHMW-PE roll covers.

#### Standard Product:

- Standard thickness is .060" (1.5mm)
- Minimum diameter is 5" (127mm)

#### Potential Advantages of UHMW-PE Roll Covers:

- Restoration of a surface pitted or rusted roll to a high gloss surface
- Better release than steel, fiberglass or common rubbers
- Lower wear of machine cloth and wires
- Installation in your mill
- Best wearing of all plastic and rubber materials
- Ideal for segmented bowed rolls, paper carrying rolls, felt and wire return rolls

#### Other Applications for UHMW-PE:

Varied uses include pickers on mechanical looms, pile driver pads, truck bed liners and Panama Canal lock bumpers. In addition, liners on railroad hopper cars transporting fine iron ore and un-lubricated fifth wheel wear plates benefit from the application. Please see our website to receive a quote on lining your dump trucks or hopper cars.

An anti-static material is also available which reduces static build up on roll covers. Static dissipative UHMW-PE is used for components in conveying and material-handling systems in mines, ammunition plants, grain silos, and powder processing facilities. Its use reduces the risk of explosion caused by static charge.

#### Abrasion Resistance:

UHMW-PE has three times better abrasion resistance than polyurethane (the most abrasion resistant elastomeric roll cover). In addition the abrasion resistance of UHMW-PE in a 50% sand slurry is 10 times the abrasion resistance of carbon steel, more than double that of 6-6 nylon, and seven times that of PTFE. The self-lubricating properties of UHMW-PE are comparable to those of PTFE in dynamic friction.

#### Temperature Resistance:

Characteristics include no melting, flowing, or liquefying at its crystalline melting point of 280°-289°F. Shape retention above this temperature is due to the many entanglements of its long chain.

Our suggested service limit is 160°F (71°C).

It has useful properties in temperature as low as liquid hydrogen pumps – 425°F and is used for slides on snow mobile tracks, ski bottoms, and snow plow blades.



*Sleeve's on segmented bowed rolls can even be cut to ensure sheet-to-roll contact, eliminating air boundaries that create sheet flotation.*

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## Properties

Property	ASTM Test Method	Value
Tensile Strength (PSI)		3,000
Elongation (%)		125
Water Absorption (%)		0.01
Specific Gravity		0.93
Heat Distortion Temp. (°F)	(ISO R75 Method A)	203
Deformation (%) (2,000psi, 6hr., 122°F)		68
Hardness Shore D	D2240	65-68
Coefficient of Static Friction Against Mild Steel	D1894	0.15-0.20
Coefficient of Static Friction Against Dry Polished Steel	D1894	0.10-0.22
Coefficient of Thermal Expansion (in/in/°F)		<1.1 x 10 <sup>-4</sup>
Thermal Conductivity (7°F) [(BTU in) / (ft <sup>2</sup> hr °F)]		.44
Standard Thickness		.060" (1.5mm)

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