

eel-seal Frictionless Loaded Lip Rod and Ram Press Seals

See Your Troubles Slip Slidin' Away

introducing the

eel-seal

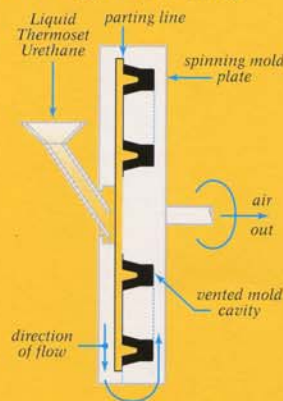
liquid smooth energized seals

So smooth it can only be described as slippery. This latest innovation from Universal Seal features a near frictionless dynamic seal face able to tolerate the most pitted and abrasive shaft surfaces. Trouble literally passes effortlessly across the surface doing less harm, giving the seal a longer wear life.

Each highly energized **eel-seal** features a high volume, virtual zero compression set expander capable of maintaining a high radial force on the shaft for effective low pressure sealing throughout the extended life of the seal.

- Developed for use on the hydraulic rams found in pressboard mills.
- Suitable for any rod seal application where abrasion or compression set failures are common.

Centrifugal Molding



- The centrifugal molding process is the only process capable of producing this uniquely effective seal. And this revolutionary process is available only through Universal Seal.

Abrasion
Resistant
Surface

95% More
Energizer
Volume

Maintains
High Radial
Force

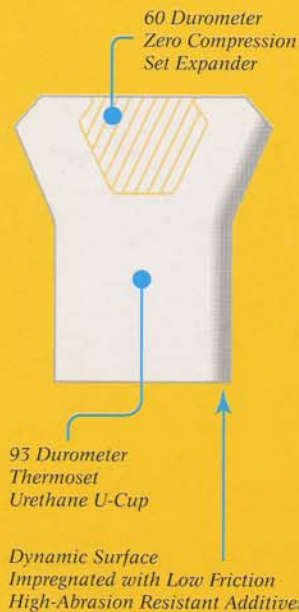


Universal Seal

No Bubble Trouble™

eel-seal

liquid smooth energized seals



The **eel-seal** is a premium cast urethane loaded lip rod seal. The energizer element, which has virtually zero compression set, is cast in place and chemically bonded to the inside of the u-cup resulting in a single piece dual durometer seal. This unique design permits 95% more energizer volume than provided by an ordinary 'o'-ring insert, and the unique filler cannot pop out or extrude in service.

But this is not even the eel seal's most unique feature. We also deeply impregnate the dynamic contact area with a special low friction additive creating a slippery, slightly hardened and highly abrasion resistant surface.

These features combine to provide a seal with an extended life in even the most demanding conditions.

Universal Seal, Inc. / R.R. 5
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For the distributor nearest you
or for more information, call
1.800.267.0676

Material Specifications

Property	Units	ASTM Test Method	U-Cup Material	Expander Material
Hardness	SHORE A	D 2240	93	60
Modulus (100%)	PSI	D 412	1400	299
Tensile Strength	PSI	D 412	5800	452
Elongation	%	D 412	420	154
Split Tear	lb./in.	D 470	100	7.3
Die C Tear	lb./in.	D 624	430	—
Compression Set	%	D 395B	24	<1
Bashere Rebound	%	D 2632	45	46

Service Temperatures

Minimum	:	-40° F	
Maximum in oil based fluids	:	200° F	(250° F Brief Periods)
Maximum in water based fluids	:	120° F	(140° F Brief Periods)

Surface Roughness

Dynamic Sealing Face	:	4 to 32 μ inches
Static Sealing Face	:	4 to 63 μ inches
Static Gland Faces	:	4 to 125 μ inches

Maximum Working Pressure

Pressure (PSI)	Max Extrusion Gap (inches)	Maximum Speed (ft/sec) at Temp	
		Up to 160° F*	Up to 200° F*
3,000	0.022	1.5	1.5
4,000	0.018	1.5	1.0
5,000	0.016	1.0	0.5
6,000	0.015	0.5	—

*in oil based fluids.

The material properties of the Dynamic Surface are modified as follows by the impregnation of a low friction additive:

Hardness is increased	:	from 93 A to 58 D
Coefficient of friction is reduced	:	from 0.44 to 0.32**
Abrasion resistance is improved	:	from 70 to 40***

** on carbon steel
*** DIN 53516 Method - Volume loss (mm³)



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