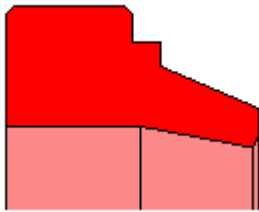




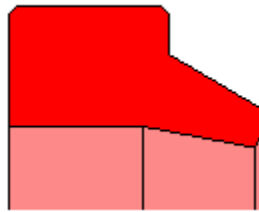
# Custom Materials

Profiles and Material Data

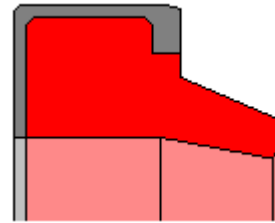
# WIPERS



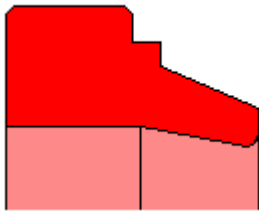
LW101



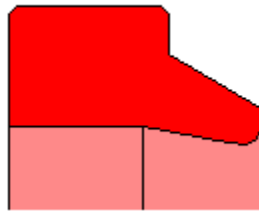
LW102



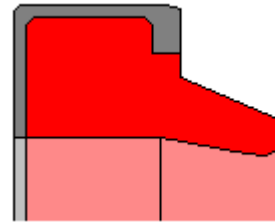
LW103



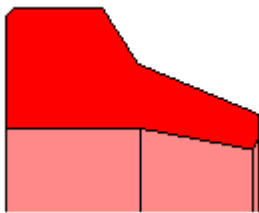
LW104



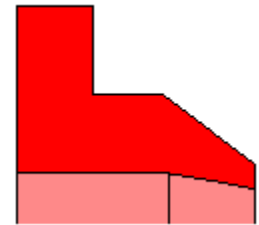
LW105



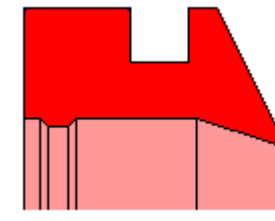
LW106



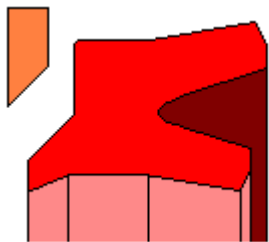
LW107



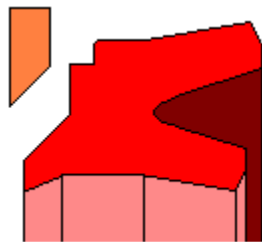
LW108



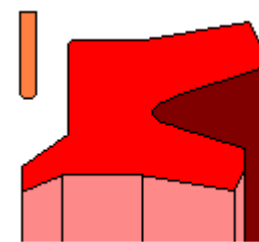
LW109



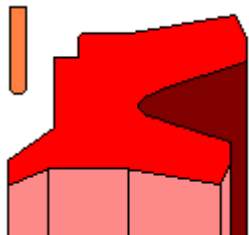
LW111



LW112



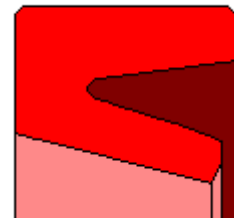
LW211



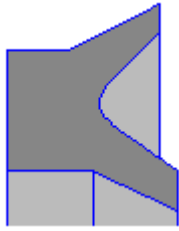
LW212



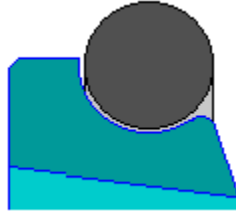
LW213



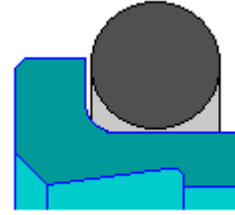
LW113



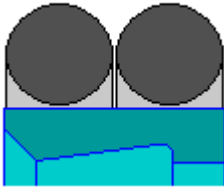
LW114



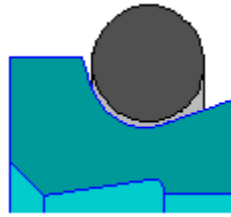
LW115



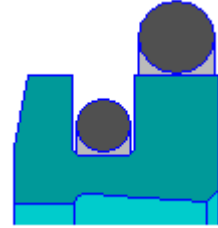
LW116



LW117

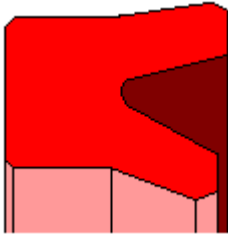


LW118

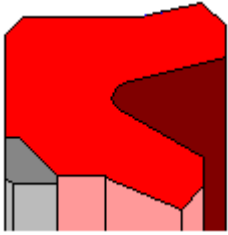


LW119

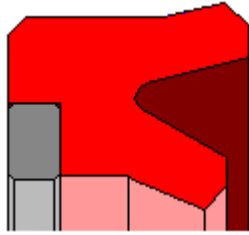
# GLAND SEALS



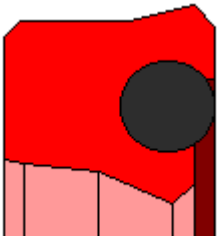
LG101



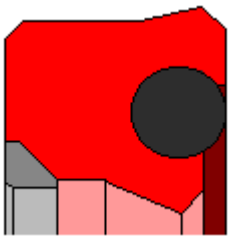
LG102



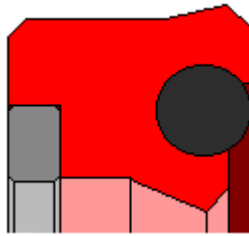
LG102R



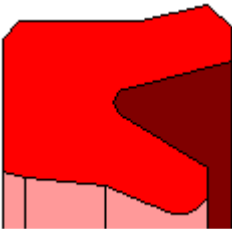
LG103



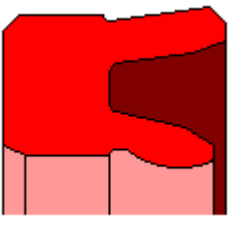
LG104



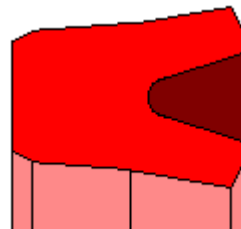
LG104R



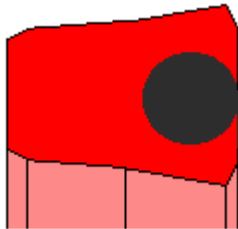
LG105



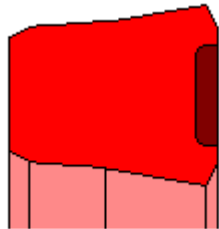
LG205



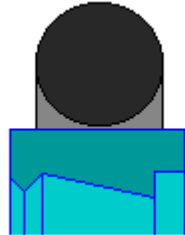
LG106



LG107



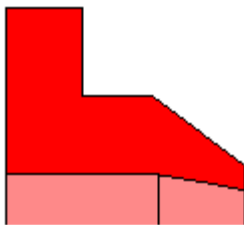
LG108



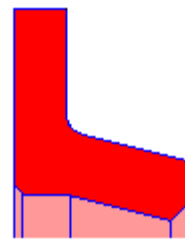
LG109



LG110-112

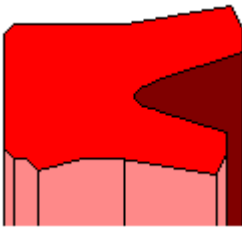


LG116

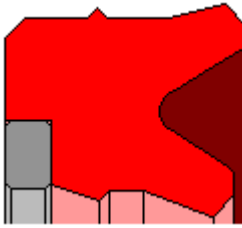


LG216

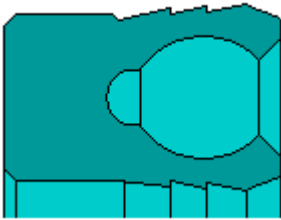
# GLAND SEALS



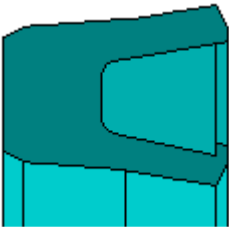
LG117



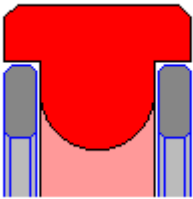
LG117R



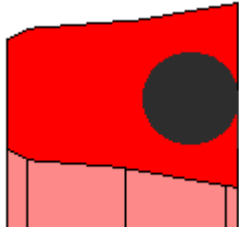
LG118



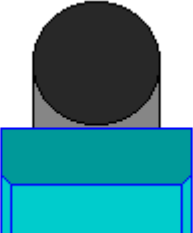
LG119



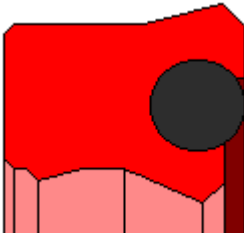
LG120



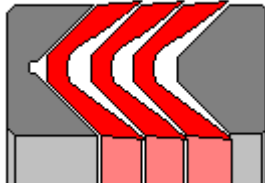
LG121



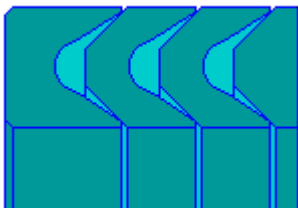
LG124



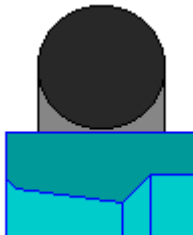
LG125



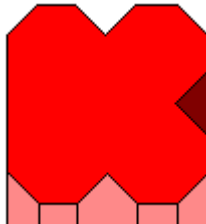
LG126-128



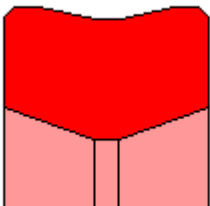
LG127



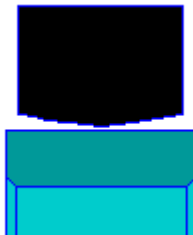
LG129



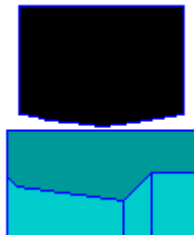
LG130



LG131

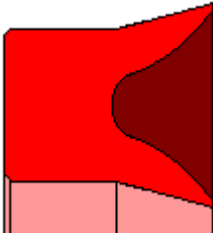


LG138

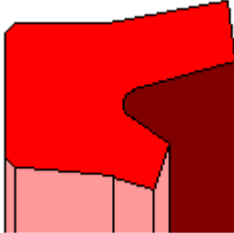


LG238

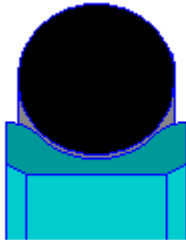
# GLAND SEALS



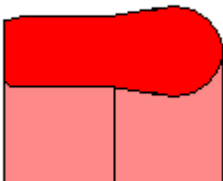
LG239



LG141

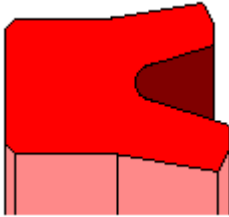


LG142

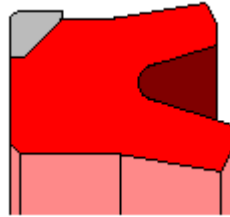


LG199

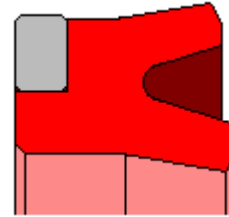
# PISTON SEALS



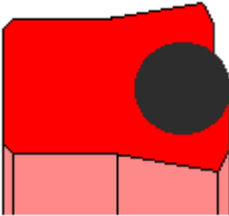
LP101



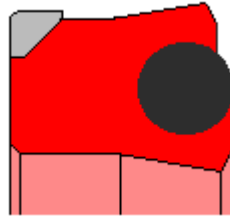
LP102



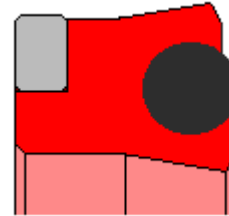
LP102R



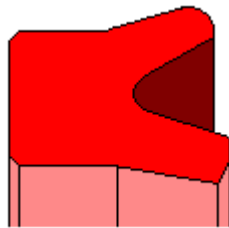
LP103



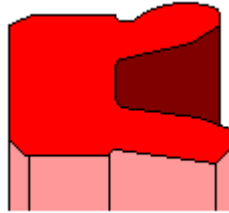
LP104



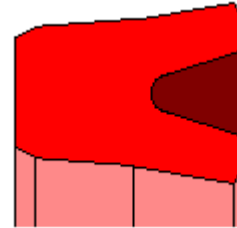
LP104R



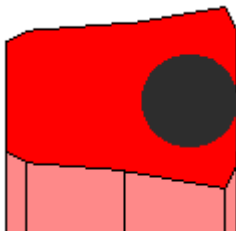
LP105



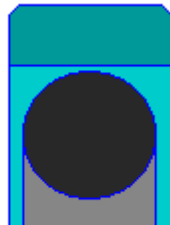
LP205



LP106



LP107



LP108



LP109



LP109D

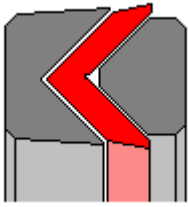


LP109H

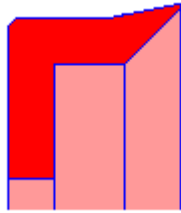


LP109N

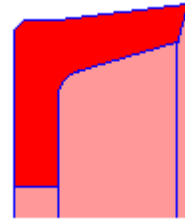
# PISTON SEALS



LP110-112



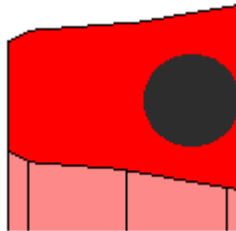
LP116



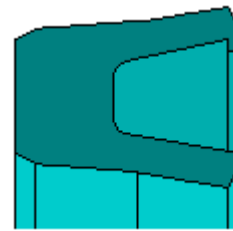
LP216



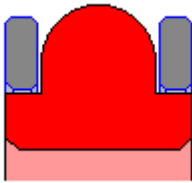
LP117



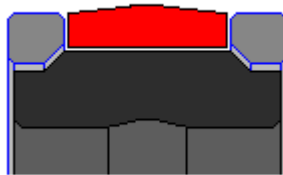
LP118



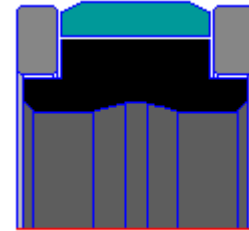
LP119



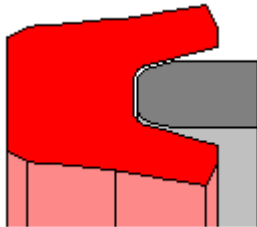
LP120



LP122



LP222



LP123



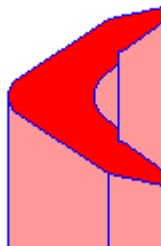
LP123D



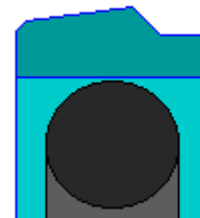
LP123H



LP123N



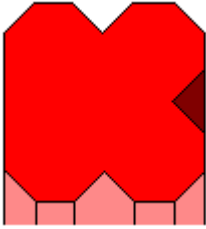
LP124



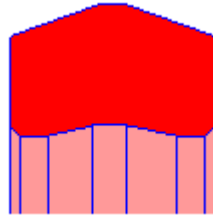
LP125



# PISTON SEALS



LP126



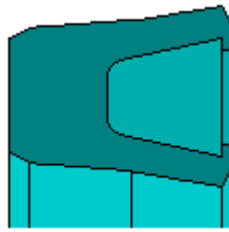
LP127



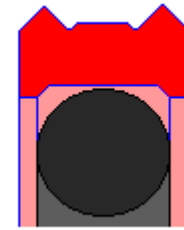
LP138



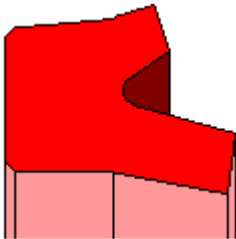
LP238



LP139



LP140



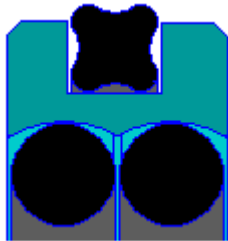
LP141



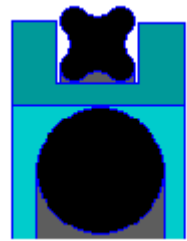
LP142



LP143



LP144



LP145

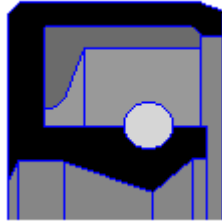


LP199

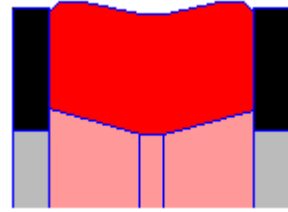
# ROTARY SEALS



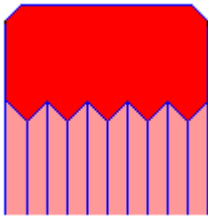
LR101



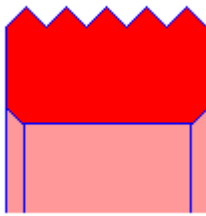
LR102



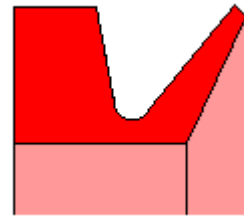
LR103



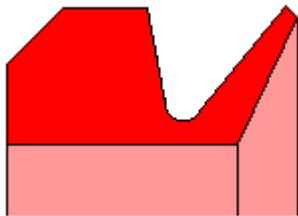
LR104



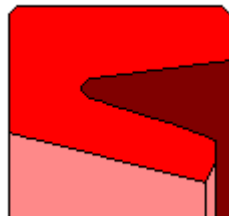
LR105



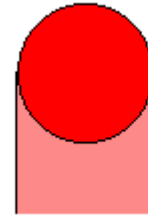
LR106



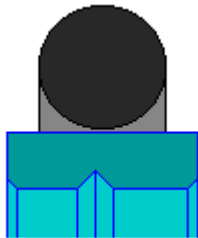
LR107



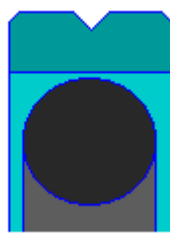
LR108



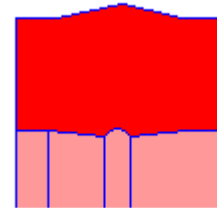
LR109



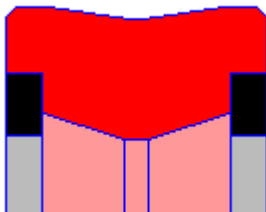
LR110



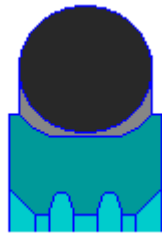
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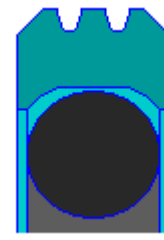
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LR113



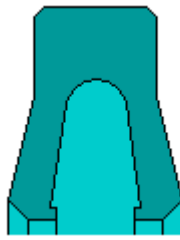
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LR116



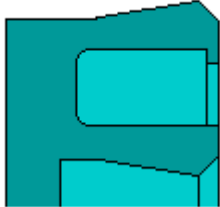
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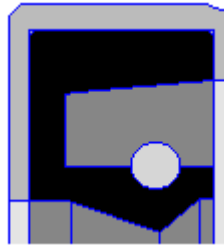
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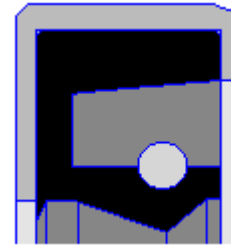
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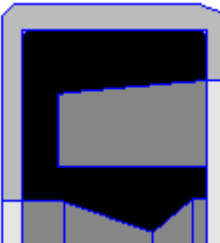
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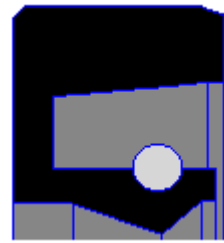
LR201



LR202



LR203



LR204



LR205

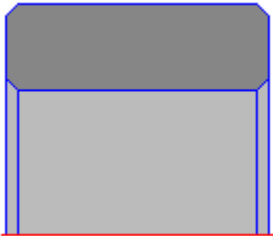


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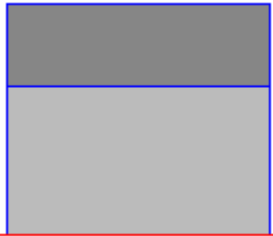


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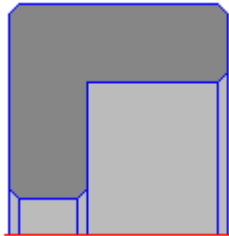
# BEARING RINGS



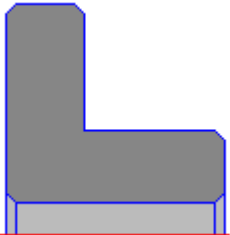
LB101



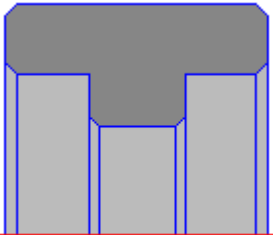
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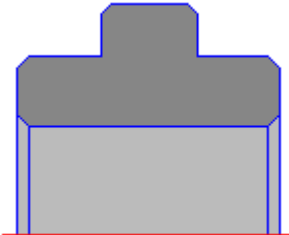
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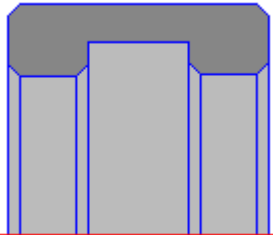
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LB105



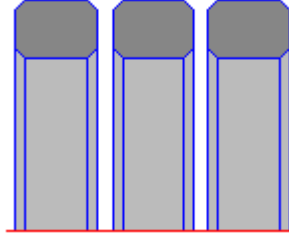
LB106



LB107

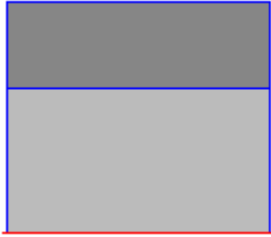


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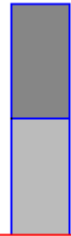


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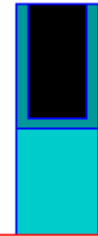
# O-RINGS/GASKETS



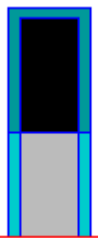
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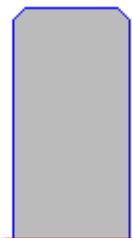
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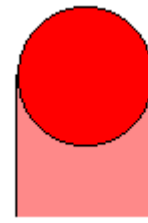
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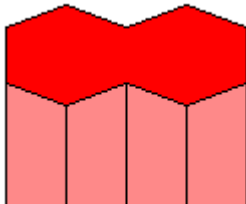
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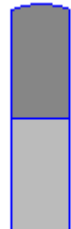
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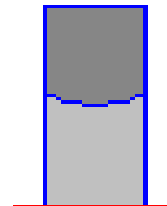
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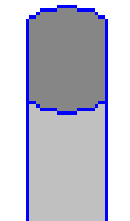
LO108A & B



LO109A



LO109B



LO109C

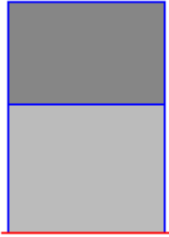


LO111



LO110

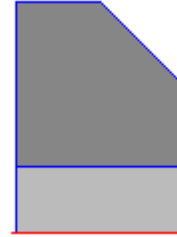
# BACK-UP-RINGS



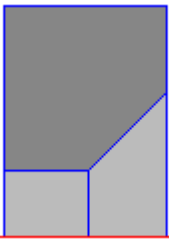
LA108



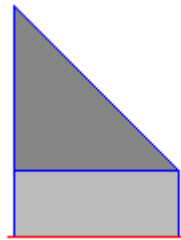
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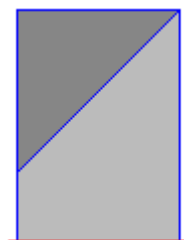
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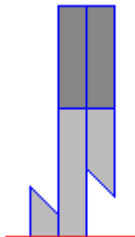
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LA112

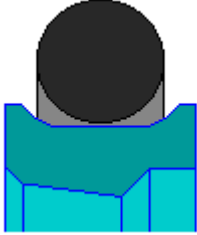


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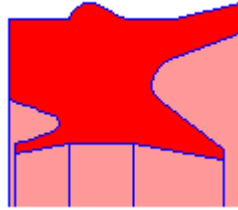


LA114

# MISCELLANEOUS



LG130



LW101



LP223AW



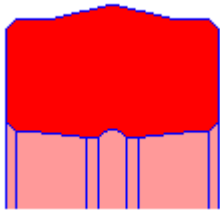
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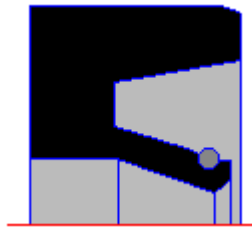
LP222E



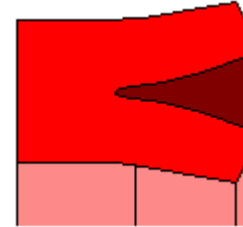
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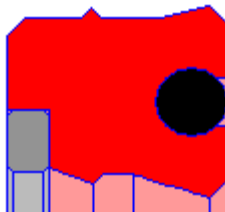
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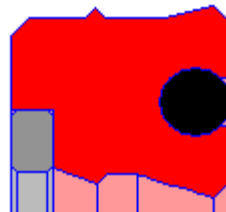
LR301



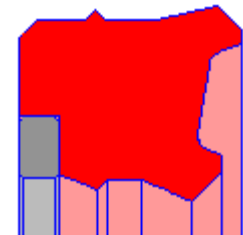
S6ME



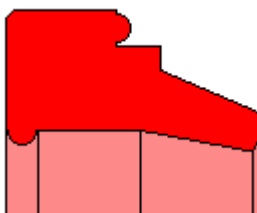
S6MR



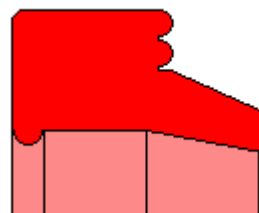
LG131M



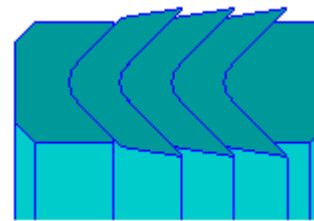
LG132B



LW801

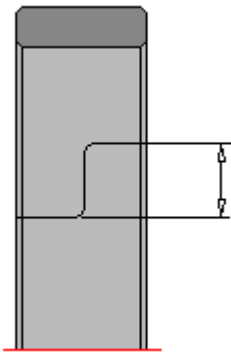


LW802

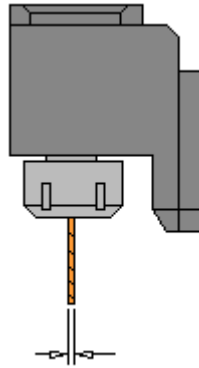


LG136

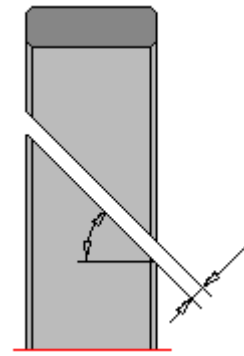
# MACHINING CAPABILITIES AND SERVICE



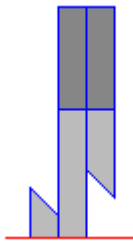
Z CUT



DRILLING



CROSSCUT



SPIRAL BACKUPS

- Minimum ID of 1mm achievable to 600mm OD For fast turn around
- Custom engineered seal design, the engineers of Ludowici Sealing Solutions have a vast amount of experience in designing and manufacturing seals. With years of practical and theoretical experience, our engineers are uniquely qualified to understand your exact needs, ensuring you get the right seal in the right material.
- One hour and same day seal manufacturing service with the help of our state-of-the-art, on demand manufacturing process.
- In house polyurethane and PTFE processing.
- Seal failure analysis.



# MATERIAL DATA

## LUSINT-250

Product Description	Physical Properties		
	Property	Value	Unit
Lusint-250 electro graphitized (EG) carbon filled PTFE compound that has a smooth jet black appearance in finished products and is softer than standard hard carbon compounds.	Color	Jet Black	
	Bulk Density	500	g/l
	Specific Gravity	2.11	g/cm <sup>3</sup>
	Hardness	65	Shore D
	Tensile Strength	20	MPa
	Elongation	220	%
	Rec-Perform Pressure	50	MPa
	Min-service temp	-200	C
	Max-service temp	200	C

**Performance Advantages-**

- Increased wear resistance
- Reduces creep
- Softer face against mating surfaces
- Good gliding PTFE

**Typical Applications**

- Ball Valve Seats
- Bearing Rings - Pumps
- Seal Rings
- Rotary Shaft Seals

## LUSINT-600

Product Description	Physical Properties		
	Property	Value	Unit
Lusint-600 is a 60% non-oxidizing Bronze filled PTFE. Bronze is a copper and tin alloy Providing excellent creep and wear resistance. It is often used in hydraulic systems.	Color	Dark Brown	
	Bulk Density	750	g/l
	Specific Gravity	3.9	g/cm <sup>3</sup>
	Hardness	69	Shore D
	Tensile Strength	20	MPa
	Elongation	200	%
	Rec-Perform Pressure	45	MPa
	Min-service temp	-200	C
	Max-service temp	+260	C

**Performance Advantages-**

- Increased wear resistance
- High-temp applications
- Excellent Back-up Material

**Typical Applications**

- Bushes-Bearings
- Piston Rings
- Seals-Hydraulic Systems

## VIRGIN PTFE

**Product Description**  
 Virgin PTFE contains no fillers and is supplied To a strict particle size and purity specification. This resin is idea for compression moulding.

**Performance Advantages-**

- Excellent Chemical Resistance
- FDA compliant-(Food Safe)
- Extremely low friction
- High Temp Resistance-260 C Continuous

**Typical Applications**

- Ball Valve Seats
- Mechanical Seals
- Guide Rings
- Backup Rings

Physical Properties			
Property	Value	Unit	
Color	White		
Bulk Density	500	g/l	
Specific Gravity	2.17	g/cm3	
Hardness	58	Shore D	
Tensile Strength	28	MPa	
Elongation	300	%	
Rec-Perform Pressure	25	MPa	
Min-service temp	-200	C	
Max-service temp	+260	C	

## PTFE 25% GLASS

**Product Description**  
 Lusint-25% glass filled PTFE is the most commonly used PTFE filler, resulting in lower deformation under load at both high and low temperatures.

**Performance Advantages-**

- Hard low wear PTFE
- Better wear resistance
- Good Tensile Strength

**Typical Applications**

- Gland bushes

Physical Properties			
Property	Value	Unit	
Colour	White		
Bulk Density	500	g/l	
Specific Gravity	2.24	g/cm3	
Hardness	62-64	Shore D	
Tensile Strength	17	MPa	
Elongation	225	%	
Rec-Perform Pressure	30-55	MPa	
Min-service temp	-200	C	
Max-service temp	+260	C	

## TMB

### Product Description

TMB is a filled fluoropolymer with PTFE as its basis, it is filled with Glass, Bronze and Molybdenum di sulphite. It has low friction With the stiffness of glass and bronze.

### Performance Advantages-

- Increased wear resistance
- Excellent sealing material
- Extremely Good Extrusion Resistance

### Typical Applications

- Guide rings

### Physical Properties

Property	Value	Unit
Color	Grey	
Bulk Density	520	g/l
Specific Gravity	2.61	g/cm <sup>3</sup>
Hardness	68	Shore D
Tensile Strength	19.1	MPa
Elongation	213	%
Rec-Perform Pressure	50	MPa
Min-service temp	-200	C
Max-service temp	260	C

## LUSINT-232

### Product Description

Lusint-232 is PTFE with 23% Glass Fiber and 2% Molybdenum Disulfide.

### Performance Advantages-

- Rigid PTFE
- Self-Lubricating up to 260C
- Excellent Wear Resistance

### Typical Applications

- Glide Rings
- Back Up Rings / Static Seals

### Physical Properties

Property	Value	Unit
Color	Jet Black	
Bulk Density	Grey	
Specific Gravity	650	g/l
Hardness	2.11	g/cm <sup>3</sup>
Tensile Strength	64-65	Shore D
Elongation	15.4	MPa
Rec-Perform Pressure	241	%
Min-service temp	-200	C
Max-service temp	260	C

## NBR

**Product Description**  
Nitrile Butadiene Rubber,  
Copolymer, based butadiene & acrylonitrile

### Physical Properties

Property	Value	Unit
Color	Black	
Density	1.317	g/cm <sup>3</sup>
Compression set 100c 24hours	12	%
Hardness	85 +/- 5	Shore A
Tensile Strength	15.2	MPa
Elongation At Break	226	%
Tear Strength	5,4	N/mm
Abrasion	130	mm <sup>3</sup>
Rebound Resilience	25	%
Modulus 100%	8,8	MPa
Min-Service Temp	-35	C
Max-Service Temp	+110	C

### Performance Advantages-

- Abrasion resistant
- High elasticity
- Standard hydraulic applications and pneumatic applications to 250 bar

### Typical Applications

- Rod & Piston Seals
- Wiper Seals
- Rotary Seals
- Static Seals

## FPM-VITON

**Product Description**  
Fluorine Rubber (FPM)  
Copolymer, based on Hexafluoropropylene  
And Tetrafluoroethylene

### Physical Properties

Property	Value	Unit
Color	Brown	
Density	2,512	g/cm <sup>3</sup>
Compression set 175c 24hours	7,7	%
Hardness	85 +/- 5	Shore A
Tensile Strength	10,3	MPa
Elongation At Break	207	%
Tear Strength	6,3	N/mm
Abrasion	200	Mm <sup>3</sup>
Rebound Resilience	8	%
Modulus 100%	6,5	MPa
Min-Service Temp	-25	C
Max-Service Temp	+220	C

### Performance Advantages-

- Abrasion resistant to heat & Chemicals
- High elasticity
- Standard hydraulic applications and pneumatic applications to 250 bar

### Typical Applications

- Rod & Piston Seals
- Wiper Seals
- Rotary Seals / Static Seals

## EPDM

### Product Description

Copolymer, Based on Ethylene, Propylene and Diene Rubber.

Resistant to Hot water, Acids, Bases, Ketones, Brake fluids based on Polyglycols

### Performance Advantages-

- Highly Resistant to Weathering
- High elasticity

### Typical Applications

- Rod & Piston Seals
- Wiper Seals
- Rotary Seals / Static Seals

### Physical Properties

Property	Value	Unit
Color	Black	
Density	1.17	g/cm <sup>3</sup>
Compression set 100c 22hours	9.6	%
Hardness	85 +/- 5	Shore A
Tensile Strength	15.5	MPa
Elongation At Break	115	%
Tear Strength	3.6	N/mm
Abrasion	140	Mm <sup>3</sup>
Rebound Resilience	49	%
Modulus 100%		MPa
Min-Service Temp	-40	C
Max-Service Temp	150	C

## POM

### Product Description

Polyoxymethelene (POM) Acetal

### Performance Advantages-

- High Strength Material
- Creep Resistance
- Good Wear Resistant Properties

### Typical Applications

- Bearings
- Wear Bands
- Bushes

### Physical Properties

Property	Value	Unit
Color	White	
Density	1,41 – 1,43	g/cm <sup>3</sup>
Heat Distortion	110	C
Hardness	84	D
Tensile Strength	70	N/mm <sup>2</sup>
Elongation At Break	40	%
Melting Point	164-168	C
Impact strength	No Break	KJ/m <sup>2</sup>
Modulus of Elasticity	3000	N/mm <sup>2</sup>
Min-Service Temp	-40	C
Max-Service Temp	100	C

## H-PU93/A

Product Description		Physical Properties		
		Property	Value	Unit
H-PU Thermoplastic Polyurethane				
Mechanically Strong Material				
Resistant to Mineral Oils, Water and Diluted Acid		Color	Red	
		Specific Density	1.144	g/cm <sup>3</sup>
		Modula's @ 100%	12.5	MPa
		Hardness	93	Shore A
<b>Performance Advantages-</b>				
<ul style="list-style-type: none"><li>• Easy fitting due to high elasticity</li><li>• Excellent Hydrolysis Resistance</li><li>• Extremely good Abrasion Resistance</li></ul>		Tensile Strength	31.4	MPa
		Elongation at Break	450	%
		Rec-Perform Pressure	400	Bar
		Compression Set @ 100c 24hrs	26	%
<b>Typical Applications</b>		Extreme Service Temp	-20/90	C
<ul style="list-style-type: none"><li>• Rod Seals</li><li>• Piston Seals</li><li>• Wiper Seals</li><li>• Static Seals</li></ul>		Rebound Resilience	52	23C

## H-PU97/A

Product Description		Physical Properties		
		Property	Value	Unit
H-PU97A- Thermoplastic Polyurethane				
Mechanically Strong Material				
Slightly Higher Stiffness		Color	Dark Blue	
Resistant to Mineral Oils, Water and Diluted Acid		Specific Density	1.157	g/cm <sup>3</sup>
		Modula's @ 100%	16.1	MPa
		Hardness	97	Shore A
<b>Performance Advantages-</b>				
<ul style="list-style-type: none"><li>• Easy fitting due to high elasticity</li><li>• Excellent Hydrolysis Resistance</li><li>• Extremely good Abrasion Resistance</li></ul>		Tensile Strength	38.3	MPa
		Elongation at Break	410	%
		Rec-Perform Pressure	400	Bar
		Compression Set @ 100c 24hrs	30	%
<b>Typical Applications</b>		Extreme Service Temp	-20/125	C
<ul style="list-style-type: none"><li>• Rod Seals</li><li>• Piston Seals</li><li>• Wiper Seals</li><li>• Static Seals</li></ul>		Rebound Resilience	40	23C

## H-PU93A-BENZO

Product Description	Physical Properties		
H-PU93A Benzo Thermoplastic Polyurethane Mechanically Strong Material Softer more supply version of the 93A with the added Plastersizer Benzoflex	Property	Value	Unit
<b>Performance Advantages-</b> <ul style="list-style-type: none"> <li>• Easy fitting due to high elasticity</li> <li>• Excellent Hydrolysis Resistance</li> <li>• Extremely good Abrasion Resistance</li> </ul>	Color	Light Blue	
	Tear Strength	77.3	KN/m
	Modula's @ 100%	12	MPa
	Hardness	97-Benzo	Shore A
	Tensile Strength	42.7	MPa
	Elongation at Break	355	%
	Rec-Perform Pressure	400	Bar
	Compression Set @ 100c 24hrs	22	%
	Extreme Service Temp	-35/110	C
	Rebound Resilience	40	23C
<b>Typical Applications</b> <ul style="list-style-type: none"> <li>• Rod Seals</li> <li>• Piston Seals</li> <li>• Wiper Seals</li> <li>• Static Seals</li> </ul>			

# MATERIAL FEATURES

- **LUSINT-250** has an 80% better wear life over other Carbon filled grades with good compression properties for loading applications. Also has very good abrasion resistance and load bearing. **Resistant to-** almost all chemicals including mineral oil, acid oils and gases, cold water, hot water and steam, diluted acids and bases. **Not resistant to-** halogenides, elemental fluorine, CF3, molten alkali metals.
  
- **VIRGIN-PTFE** has excellent chemical resistance to almost all chemicals and commercial fluids with excellent resistance to extreme hot and cold, and is also self-lubricating. It's very low coefficient of friction and high impact resistance make it suitable for wide chemical exposure situations with emphasis on temperature extremes, and low friction sealing applications. **Resistant to-** hydraulic fluids, almost all acids and caustic solutions, also is resistant to influences of the weather and aging. **Not Resistant to-** halogenides, elemental fluorine, CF3, molten alkali metals.

- **PTFE-25% GLASS** has excellent resistance to water and is used to improve the creep resistance of PTFE over all the temperature ranges, it is also self-lubricating and has good wear resistance and has lower deformation under load at both high and low temperatures. **Resistant to-** almost all chemicals including mineral oils acid oils and gases HFC, HFD-U, HETG=biological base. **Not Resistant to-** hydrofluoric acid and strong alkalis, elemental fluorine, and CF<sub>3</sub>.
- **TMB** has excellent chemical resistance with low frictional properties and extremely good extrusion resistance and an increase in mechanical strength, increase in hardness, reduction of wear and/or friction, improvement in the flow strength and increase in thermal shape stability. With the stiffness of glass and bronze makes an excellent choice as a sealing material for hydraulic seals. **Resistant to-** mineral oils, hot water and steam. **Not Resistant to-** halogenides, elemental fluorine, CF<sub>3</sub>, molten alkali metals.
- **LUSINT-600** is a bronze filled PTFE, bronze is a copper and tin alloy providing better creep and wear resistance. It is often used in hydraulic systems but is not suited to electrical applications. **Resistant to-** mineral oil, acid oils and gases, diluted acids and bases, HFC, HFD-U, HETG=biological base. **Not Resistant to-** elemental fluorine, CT<sub>3</sub>, molten alkali metals.
- **POM** has high pressure and extrusion strength with low moisture absorption and high mechanical strength, rigidity, dimensional stability and high impact strength with good abrasion. Bearings made from Pom will outperform Nylon in conditions of high moisture, including submerged applications. **Resistant to-** Water, alcohols, aliphatic and aromatic hydrocarbons, mineral oils and fats, fuels, weak acids and caustic solutions, vegetable and animal fats and oils. **Not Resistant to-** strong acids and caustic solutions, also this material is attacked by strong acids and bases.
- **NBR** Nitrile forms the most common group of elastomers for general sealing use, it has good physical properties and is superior to most rubbers in regards to compression set, tear and abrasion resistance. **Resistant to-** oil, petrol, hot water, hot air, ozone, crude oil, propane, butane, gasoline, mineral oils and fats, Diesel fuels as well as fuel oil, many diluted acids, bases, salt solutions, at low temperature. **Not Resistant to-** acids, lyes, polar solvent such as ketone, acetone, acetic acid ethylene ester.
- **VITON** is good for hard vacuum applications and used for U-cups, lip seals, o/rings and special seals in chemical processing, oil-recovery equipment, and in high temperature sealing applications up to 220c. **Resistant to-** Silicone oils and fats, synthetic aircraft engine oils, mineral oil and mineral fats, very good resistance to ozone, aging and weather, solvents such as trichloroethylene and by, acids and bases (at low temperatures). **Not Resistant to-** water, steam, glycols, ketones and most fluids containing amines, nitro hydrocarbons, hot hydrofluoric and chlorosulfonic acids.



- **EPDM** is used for standard and special sealing applications as hydraulic or rotary seals, o/rings, flange seals and gaskets up to 150c, glycol-based brake fluids. **Resistant to-** Silicone oils and fats, ozone, aging, influences of the weather, hydraulic fluids and phosphoric acid ester basis. **Not Resistant to-** Mineral oil based fluids, diester based lubricants, aromatic fuels or vegetable and animal oils.
- **H-PU97A** Has outstanding features which include extremely good abrasion and extrusion resistant seal material, low compression set, high rigidity and high tear strength, and excellent hydrolysis resistance. HPU97a is used where improved performance and service life is important. **Resistant to-** mineral oils, hydraulic fluids on mineral oil basis, silicone oils and silicone greases, petroleum oils, hydrocarbon fuels, synthetic and native esters, inflammable hydraulic fluids from the HFA and HFB group, **Not Resistant to-** ketones and glycols, brake fluids on glycol base, hot steam over +100°C, amines, alkalis, acids, alcohols and aromatic solvents.

## Other materials available

- VITON ED = Explosive Decompression
- VITON FDA = Food Compliant
- NBR TAIGA = Low Temperature
- AFLAS = Water and Steam Resistant
- H-NBR ED = Explosive Decompression
- H-NBR = Standard
- SILICONE FDA = Food Compliant
- SILICONE = Standard
- PA6G = Nylon
- EPDM FDA = Food Compliant
- NBR FDA = Food Compliant
- Special PTFE Compounds
- PA66GF = Glass Filled Nylon
- PA OIL = Oil Filled Nylon
- UHMWPE = Ultra High Molecular Weight Polyethylene
- PEEK = Polyether ether Ketone
- H-NBR OFFSHOE = High Pressure Resistant, Saltwater Resistant
- HPU TAIGA = Low Temp Polyurethane Down To -50c