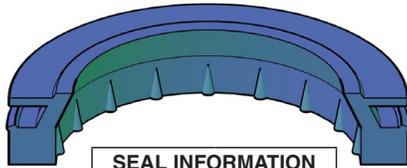


### ST-XLFT - Wiper

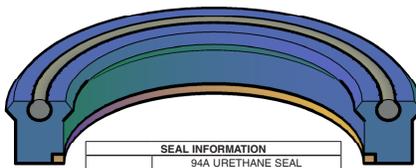
The ST-XLFT was developed for hard environments, particularly longwall mining. These wipers include a dust lip to prevent contaminants from entering through the groove. They also have a ribbed inside diameter for low friction operation and to prevent pressure traps between the wiper and rod seal.



SEAL INFORMATION	
MATERIAL	93A URETHANE
TEMPERATURE RANGE	-50° TO +230° F
SPEED	12 FT/SEC

### MRUBL - Rod U-Seal

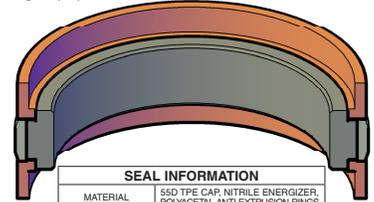
Designed for longwall mining applications, the MRUBL style consists of a urethane seal, nitrile o-ring energizer, and polyacetal anti-extrusion ring. The energizer ensures sealing under low pressure and cushions the seal against shock loads. The anti-extrusion ring resists extrusion under side load and extreme pressure peaks.



SEAL INFORMATION		
MATERIAL 93A URETHANE SEAL RUBBER ENERGIZER POLYACETAL ANTI-EXTRUSION RING		
MAXIMUM OPERATING CONDITIONS		
MAXIMUM SPEED	PRESSURE RANGE	TEMPERATURE RANGE
3 ft/sec	0 - 6,000 psi	-50° to +230° F / +32 to +140° F (HFA)

### MPSA-750 - Piston Seal Assembly

This four piece double acting piston seal contains a nitrile energizer behind a tough, wear-resistant 55D thermoplastic polyester elastomer (TPE) cap ring. It also includes two L-shaped split polyacetal anti-extrusion rings/bearings. The design has high shock load and high pressure capabilities and is suitable for both roller-burnished and honed tubing. Sealing materials are suitable for mineral oils and HFA (High Water Content) fluids as used in longwall mining equipment.



SEAL INFORMATION	
MATERIAL 55D TPE CAP NITRILE ENERGIZER, POLYACETAL ANTI-EXTRUSION RINGS	
TEMP. RANGE	-22° TO +212° F +32 TO +140 F (HFA)
PRESSURE RANGE	0 TO 7,500 PSI
SPEED	1.0 FT/SEC

### MTPS - Piston Seal Assembly

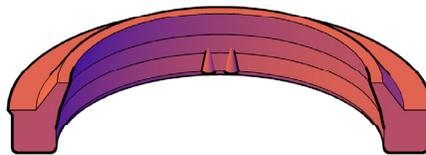
This four piece double acting piston seal contains a nitrile energizer behind a tough, wear-resistant 55D thermoplastic polyester elastomer (TPE) cap ring. It also includes two split rectangular polyacetal anti-extrusion rings. The MTPS design has high shock load and high pressure capabilities and is suitable for both roller-burnished and honed tubing. Sealing materials are suitable for mineral oils and HFA (High Water Content) fluids as used in longwall mining equipment.



SEAL INFORMATION	
MATERIAL 55D TPE CAP, NITRILE ENERGIZER, POLYACETAL ANTI-EXTRUSION RINGS	
TEMP. RANGE	-40° TO +230° F +32 TO +140 F (HFA)
PRESSURE RANGE	0 TO 10,000 PSI
SPEED	1 FT/SEC

### MW38 - Wiper Ring

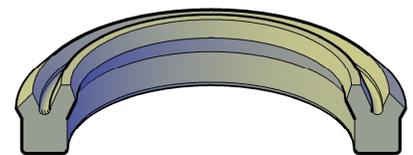
The style MW38 wiper is made from tough abrasion resistant polyester based material for difficult conditions found in mining and earth moving applications. It incorporates a sealing lip on the outside diameter to prevent moisture entering the groove.



SEAL INFORMATION	
MATERIAL	55D POLYESTER
TEMPERATURE RANGE	-40° TO +250° F
SPEED	12 FT/SEC

### MUHS - Head Seal

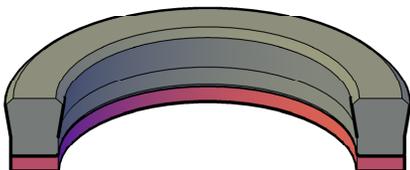
The MUHS u-ring profile head seal was developed for high water content fluids (HFA) applications, it can also be used with standard mineral oil fluids. Each nominal diameter seal can be used in a range of bores.



SEAL INFORMATION	
MATERIAL	40D POLYESTER ELASTOMER
TEMPERATURE RANGE	-22° F - +212° F +40° F - +140° F (HFA)
PRESSURE RANGE	0 TO 7,500 PSI
SPEED	STATIC

### MHSNB - Head Seal

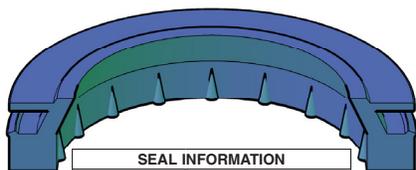
This head seal design, comprised of a nitrile seal and hard urethane back-up ring, is used in some mining applications.



SEAL INFORMATION	
MATERIAL	NITRILE SEAL, HARD URETHANE BACK-UP
TEMPERATURE RANGE	-31° TO 230° F
PRESSURE RANGE	0 TO 7,250 PSI
SPEED	STATIC

### MSWE-XLF - Wiper Ring

The MSWE-XLF was developed for harsh environments, particularly longwall mining. These wipers include a dust lip to prevent contaminants from entering through the groove. They also have a ribbed inside diameter for low friction option and to prevent pressure traps between the wiper and rod seal.



SEAL INFORMATION	
MATERIAL 93A URETHANE, 55D URETHANE (D SUFFIX)	
TEMPERATURE RANGE	-50° F - +230° F, 93A URETHANE -40° F - +212° F, 55D URETHANE
MAX. PRESSURE	-
SPEED	12 FT/SEC