



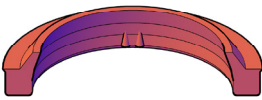
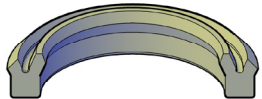
Our seals are the hardest mineworkers.

Mining presents demanding conditions for hydraulic seals, and Hercules has met those demands for decades with superior sealing products, customer service and technical assistance. Mining is a complex industry, with an array of extreme heavy-duty needs. Hercules' vast product offering exclusively for mining includes seals, seal kits and gaskets for the primary mining environments such as open pit, longwall and underground mining. Our products are field tested to assure maximum continuous performance as they withstand severe heat, pressure, speeds, friction and more in numerous mining machines and environments. Your needs are unique, so count on Hercules' expertise for the best custom solutions and products.

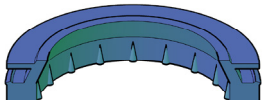
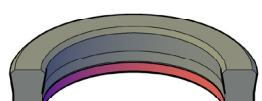
LONGWALL SEALS

Product	Profile and Image	Description	Material	Parameters	Range
MRUBL Rod U-Seals		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.	Urethane U-Seal Rubber Energizer Polyacetal Back-Up	-50° ~ +230° F -32° ~ +140° F (HFA) 6,000 PSI	40 ~ 380 mm
PSA-83 PSA-83-W Piston Seal Assembly		This three piece piston seal, designed for one piece pistons, contains a nitrile rubber seal with tow split plastic anti-extrusion rings. Under pressure, the seal exerts a wedging action on the anti-extrusion rings, reducing the clearance between the bore and the piston, minimizing extrusion. Sales part numbers ending in W include two wear rings.	NBR Piston Seal Polyacetal Anti-Extrusion Rings & Bearings	-22° ~ +212° F 6,000 PSI	1.5" ~ 7"
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.	TPE Cap NBR Energizer Polyacetal Anti-Extrusion Rings	-22° ~ +212° F -32° ~ +140° F (HFA) 7,500 PSI	125, 150, 320 mm
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.	TPE Cap NBR Energizer Polyacetal Anti-Extrusion Rings	-40° ~ +230° F -32° ~ +140° F (HFA) 10,000 PSI (Dynamic) 17,400 PSI (Static)	80 ~ 400 mm
ST-XLFT Wipers		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.	Urethane	-50° ~ +230° F	1.75" ~ 8"

LONGWALL SEALS

Product	Profile and Image	Description	Material	Parameters	Range
MW38 Wipers		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.	55D Polyester	-40° ~ +250° F	20 ~ 350 mm
MUHS Head Seals		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.	40D Polyester Elastomer	-22° ~ +212° F F-40° ~ +140° F (HFA) 7.250 PSI	90 ~ 420 mm

MINING SEALS

Product	Profile and Image	Description	Material	Parameters	Range
MSWE-XLF Wipers		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.	55D Polyester	-40° ~ +250° F	20 ~ 350 mm
MHSNB Head Seals		This head seal design, comprised of a nitrile seal and hard urethane back-up ring, is used in some mining applications.	NBR Seal Urethane Back-up Ring	-31° ~ +230° F	133 ~ 420 mm

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- Sandvick - Wheel Loaders
- Terex - Excavators and Off Hwy Trucks
- Volvo - Wheel Loaders, Articulated Dump Trucks and Excavators
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