

MELBOURNE WEST | MELBOURNE EAST | SYDNEY | NEWCASTLE | BRISBANE www.hsa.com.au

MINING SOLUTIONS

MINIMISING DOWNTIME ON KEY ASSETS



An ever-increasing reliance on technological solutions in the mining industry has led to a growth in the use of hydraulic systems. Working within extreme conditions, seals in mining equipment need to be reliable to prevent unscheduled maintenance and minimise costly downtime in this round the clock industry. Safety, productivity and efficiency are of the utmost importance. Contamination, extreme loads and non-stop operation can lead to inferior seals breaking down quickly.

At HSA, our range of products are of the highest quality, providing exceptional performance to minimise downtime and keep mining equipment working at peak efficiency.

We sell kits suitable for:





HITACHI

Since 1999, Hydraulic Seals
Australia has used cutting edge
technology and partnerships with
innovative global suppliers to
increase the capability and lifespan
of your mining equipment.

MATERIALS & EXPERTISE

PROTECT YOUR ASSETS

With over 30 years combined experience in each branch, our skilled team can help you protect your assets by providing you with expertise and specifically developed materials. We consistently communicate with end users to develop materials to meet their service life requirements.

Seal kits may be the least expensive component of a cylinder rebuild, but the cost of downtime when using an inferior seal kit can quickly add up and end in loss of production and profit. We make sure to provide you with a kit that will maximise your productivity and provide the greatest benefit to your equipment.



MATERIALS



Temperature Resistance	110°C
Extrusion Resistance	
Wear Resistance	
Flexibility	
Hardness	60 Shore D
Friction	
Speed	3.0 m/sec

XSLPU is an MDI-based polyurethane that has been specially modified and developed for sealing applications. It has been optimised in regard to its mechanical and frictional properties, and its stability in mineral and synthetic oils, gasoline, acid and base environments. It has high tensile strength, very high abrasion resistance, low hysteresis, very good flexibility at low temperature and low compression set. XSLPU has excellent extrusion resistance and allows higher working pressures and larger sealing gaps compared to seals made from PTFE compounds. It is especially used in applications where low lubricity is problematic and where low friction is necessary.



Temperature Resistance	110°C
Extrusion Resistance	
Wear Resistance	
Flexibility	
Hardness	92 Shore A
Friction	
Speed	0.5 m/sec

U2150 is a proprietary aromatic polyether based, premium grade TPU designed to perform in hydraulic systems where hydrolysis is a known issue. U2150 is explosive decompression resistant and can withstand long term exposure to oils, hydrolysis, chemicals and abrasion. It also demonstrates good extrusion resistance at the higher temperature ranges. U2150 is derived from a hybrid Polyether polyol backbone, offering excellent hydrolytic stability, low oil absorption, and is impervious to microbial attack. This makes it a good choice for a wide range of seal applications in standard hydraulic oils as well as bio and water based hydraulic oils.





Temperature Resistance	135°C
Extrusion Resistance	
Wear Resistance	
Flexibility	
Hardness	92 Shore A
Friction	
Speed	0.5 m/sec

MFP Seals' U4150 compound is an H20 resistant, proprietary PPDI based, 92 durometer, thermoplastic polyurethane. Offering high cut, tear, fatigue and set resistance, U4150 performs well in extreme environments, such as, construction equipment, industrial, mining, oil & gas industries while extending the life of components. With the ability to maintain its physical properties and dimensional stability at high temperatures, it is an excellent choice in applications where high load bearing and extrusion resistant materials are required. U4150 has a standard operating temp range of -40°C to +121°C (-40°F to +250°F). U4150 offers excellent physical, dynamic and high-temperature performance, with intermittent exposure up to +135°C (+275°F). With low compression set values and a broad range of oil and chemical resistance, MFP Seals' U4150 compound can meet the needs of the most demanding application.

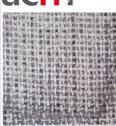




Temperature Resistance	280°C
Extrusion Resistance	
Wear Resistance	
Flexibility	
Hardness	61 Shore D
Friction	
	5.0 m/sec

ATXC-66 ("The King of Teflons") is a high spec PTFE with polymer, lubricant & special additives to give it an edge over other PTFE materials. For very high demand reciprocation and rotary applications at high pressure. Also provides excellent wear and high temperature resistance in non-lubricated environments.

acm TriboGuide G



Temperature Resistance	130°C
Compressive Strength	330 MPa
Impact Strength	100 Kj m-2
Hardness	100 Rockwell M
Water Swell	< Q .15%
Frictional Coefficient	0.05

ACM TriboGuide G is a high load composite bearing material constructed from a synthetic fabric reinforced thermoset resin and incorporates lubricating additives. The material features excellent mechanical strength, together with a low coefficient of friction.

acmTriboTough 10G



Temperature Resistance	150°C
Compressive Strength	510 MPa
Impact Strength	110 Kj m-2
Hardness	100 Rockwell M
Water Swell	<0.5%
Frictional Coefficient	0.18

ACM TriboTough 10G (ACM L10KG10) is an extreme load composite bearing material constructed from a fine weave aramid fabric reinforced thermoset resin and incorporates lubricating additives. The material features outstanding mechanical strength and excellent temperature resistance. TriboTough 10G is often used to replace high-tensile yellow metals.

acmTriboTemp 10G



Temperature Resistance	200°C
Compressive Strength	375 MPa
Impact Strength	100 Kj m-2
Hardness	100 Rockwell M
Water Swell	<0.5%
Frictional Coefficient	0.18

ACM TriboTemp 10G (ACM L10G) is a high load composite bearing material developed specifically for high temperature high load applications. It is constructed from a fine weave aramid fabric reinforced thermoset resin and incorporates lubricating additives. The material features excellent mechanical strength and outstanding temperature resistance.

HAUL TRUCKS

Our haul truck seal kits either meet or exceed genuine kit specifications. All kits have ACM TriboGuide G Guide rings or TriboTough 10G guide rings in applications where high-tensile bronze is being replaced. These materials offer improved wear and impact resistance, greater compressive strength, extremely low water absorption and much lower frictional coefficients in comparison to traditional OEM materials. For Komatsu strut applications, we incorporate XSLPU into the OEM design to increase the wear resistance of the wiper seal and the extrusion resistance of the secondary rod seal. This has proven to be a winning combination particularly in applications where the equipment is handling abrasive materials.

We specialise in the following kits for Haul Trucks:

Komatsu® 730E, 830E and 930E CAT® 785, 789 and 793 Hitachi® EH4500 and EH5000

- Steer cylinder seal kit
- Front suspension seal kit and high-load guide rings
- Rear suspension seal kit and high-load guide rings
- Hoist cylinder seal kit



Photo copyright of Komatsu®

EXCAVATORS / SHOVELS

HSA offers the highest spec kit on the market for the Hitachi EX series excavators, far exceeding the OEM product, these kits include moulded secondary rod seal and buffer seal from MFP U4150 Polyurethane, ACM TriboTemp guide rings rated to 200°C and the legendary Accofluor ATXC 66 piston seal rated to 280°C with a high temperature energiser, these kits also include high-temp static seals making it a true high temp kit throughout. Our Hitachi high-temp kits have been tried, tested and proven in some of the harshest conditions in the country.

We specialise in the following kits for Hitachi® EX1200 up to EX5600

- Boom cylinder seal kit with Hi-temp seals
- Stock/Arm cylinder kits with Hi-temp seals
- Bucket cylinder seal kit with Hi-temp seals
- Centre swivel joint seal kit
- Track adjuster seal kit

Our Terex/O&K/CAT Hydraulic Shovel kits include the genuine German manufactured scalloped guide rings as well as the high quality genuine step-cut piston seal.

We specialise in the following kits for Terex/O&K RH120,170,200,340 / CAT 6030, 6040, 6050, 6060

- Boom cylinder seal kit
- Stick/arm cylinder seal kit
- Bucket cylinder seal kit
- Track adjuster seal kit



Photo copyright of Hitachi®

BULLDOZERS

Our CAT dozer kits incorporate an energised secondary rod seal moulded from the ultra-flexible MFP U2150 Polyurethane for ease of fitting and increased pressure-spike energy dissipation in comparison to the OEM U-Cup seal. Our specifically designed buffer seal made from XSL has eliminated the need for an anti-extrusion ring. This design eliminates housing wear which is commonly seen adjacent to the Anti-Extrusion Ring in other kits. All kits utilise self-lubricated polyester reinforced guide rings which offer improved wear resistance, greater compressive strength, extremely low water absorption and much lower frictional coefficients in comparison to traditional OEM materials. Our premium CAT dozer kits have been tried, tested and proven in various applications such as Mineral Sands, Iron Ore and Coal.

We specialise in the following kits for CAT® D10 and D11:

- Blade lift seal kit
- Blade tilt seal kit
- Ripper lift seal kit
- Ripper tilt seal kit
- Ripper pin puller seal kit



Photo copyright of Caterpillar®

SUPPLIER QUOTES



"At MFP Seals we developed U4150 as the new gold standard in seal material. A custom blended, premium TPU, U4150 is designed to excel in heavy duty applications where heat, speed and friction are detrimental to seal longevity. With a focus on the extreme environment of the mining industry, where long life and performance are critical, U4150 has met and surpassed the duty-cycle requirement of 15,000 hours. This compound, when coupled with proper oil condition, surface finish, and a synergy with other cylinder components, make for equipment that outperforms and overachieves."

"With MFP Seals, U4150, You're Golden!" – Ryan King, President MFP Seals

Accofluor a*i*s

As many industries seek to decrease the use of chrome treated rods to protect the environment, numerous stakeholders are leaning towards alternative surface treatment methods such as thermal spray coating processes to obtain a suitable surface quality. We developed ATXC-66 as a new generation, high performance compound made with PTFE with polymer lubricant and additive.

The advantages of ATXC-66 are:

- Best in class temperature application range Compatible with HVOF treated surfaces
- High pressure capable
- Outstanding self-lubrication properties
- Available as both standard seals, lip-seals & ASL-seals
- Fully compatible with chrome plated surfaces

"ATXC-66 'The King of Telfons'" - Martin Christensen, President Accofluor



ACM bearings are considered the premier composite bearings for earthmoving and hydraulic applications with many machines utilizing our TriboGuide G grade which has been particularly successful in haul truck suspension cylinders as the low friction properties can help to reduce stickslip and reduce jarring and vibration, Our TriboTemp G grade has offered a solution for high speed excavator cylinders operating in harsh environments across the Australian, Asian and African continents.

Andrew McCulloch - CEO ACM Bearings Limited

CONTACT US

Melbourne West

Address: Unit 5, 640-680 Geelong Road

Brooklyn VIC 3012 **Phone**: 03 9314 1620

E-mail: vicsales@hsa.com.au

Sydney

Address: Unit 10, 504-508 Victoria Street

Wetherill Park NSW 2164 **Phone:** 02 9725 1100 **E-mail:** sales@hsa.com.au

Brisbane

Address: Unit 9, 27 Selhurst Street

Coopers Plains QLD 4108 **Phone**: 07 3188 1590

E-mail: qldsales@hsa.com.au



Melbourne East

Address: Unit 11, 151-159 Princes Hwy,

Hallam VIC 3803 **Phone**: 03 8764 0225

E-mail: hallamsales@hsa.com.au

Newcastle

Address: Unit 1, 10 Enterprise Drive

Beresfield NSW 2322 **Phone**: 02 4028 6650

E-mail: ntlsales@hsa.com.au

Rotary Seals

Address: Unit 1, 10 Enterprise Drive

Beresfield NSW 2322 **Phone**: 03 9584 3701 **E-mail**: sales@rsau.com.au

