Seal materials for rotary applications in the metallurgical industry

New Products

Rotary seal materials for rolling mill chock and heavy-duty gearbox applications

Siemens VAI hot strip mill, Linz, Austria
Enhanced performance

The launch of two new elastomer compounds for rotary seal applications is the culmination of a development programme working in partnership with our customers to understand their latest requirements for rolling chock and heavy-duty gearbox applications within the metallurgical industry.

To support our customers’ requirements for high-performance materials to withstand higher levels of abrasion, higher temperatures and higher constant running speeds we have developed two new materials. Both materials are hydrogenated nitrile (HNBR) products, reformulated to enhance performance in the required areas and are suitable for self-retaining seals or for seals where housings are fitted with retaining plates.

Full range of options

The addition of two new options to James Walker’s existing industry-leading Ultraglide material now provides best-in-class capabilities for every application under all operating conditions;

**Millglide**
- Improved wear resistance over nitrile
- Abrasion resistant
- Superior resistance to higher temperatures than nitrile material

James Walker products continue to demonstrate that a good quality nitrile (NBR) material works well in most rolling mill applications. Millglide HNBR offers a significant improvement where performance needs to be assured across more demanding mill conditions.

**Maximum surface speed:**
Up to 15m/s (2953fpm) with D6 profile design

**Media compatibility:**
Excellent resistance to a wide range of mineral and synthetic lubricants

**Seal construction:**
Flexible back of Elast-O-Lion® HNBR-proofed aramid / glass fabric. Lip of enhanced hydrogenated nitrile

**Maximum upper lip temperature:**
150°C (302°F) constant, or 170°C (338°F) constant in oil.

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**Total in-house control of material formulation, testing, compounding and manufacture ensures total traceability and guaranteed performance**
Supaglide

✓ Formulated for higher running speeds
✓ Abrasion resistant
✓ Extended life - reduced lifetime cost

This is a highly modified, high strength hydrogenated nitrile elastomer. The compound includes specially designed additives that extend the material’s performance envelope making it suited to both abrasive and higher speed applications.

Maximum surface speed:
Up to 25m/s (4922fpm) with D6 profile design

Media compatibility:
The compound retains the excellent resistance to a wide range of mineral and synthetic lubricants offered by HNBR materials

Seal construction:
Flexible back of Elast-O-Lion® HNBR-proofed aramid / glass fabric. Lip of reformulated hydrogenated nitrile

Maximum upper lip temperature:
150°C (302°F) constant; or 170°C (338°F) constant in oil.

Seal profiles

James Walker elastomer compounds for the metallurgical industry are compatible with our existing tooling and production methods, which means seals can be manufactured without delay with existing moulds from our extensive tooling library, including the most popular Walkersele® profiles detailed below.

Walkersele® D6
The standard Walkersele® design — suitable for a vast majority of bearing protection and radial lip seal applications across all sectors of industry.

Special features
• Lip profile minimises heat generation and shaft wear.
• Geometry gives lip flexibility to accommodate shaft eccentricity.
• Works at up to 0.2bar (3psi) pressure differential, or up to 2bar (29psi) with support ring.

Walkersele® D7
This robust profile is designed to accommodate higher pressure applications.

Special features
• Works at up to 4bar (58psi) pressure differential. To achieve this the heel of the seal lip must be supported but no costly profiled lip-support plates are needed.
• Flexible and robust lip maintains sealing contact on misaligned or eccentric shafts.

Walkersele® D8
The latest Walkersele design.

Special features
• Works at up to 1.5bar (21.75psi) pressure differential where the base of the seal is supported.
• Lower lip loading and seal flexibility than traditional pressure seals to accommodate shaft eccentricity.
• Design accommodates applications where vibration and shock are operational factors.

All fabric-backed Walkersele versions can be supplied as Walkersele OSJ-2 for On-Site Joining.

Endless-types can be supplied with SpringSafe positive spring retention.
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To ensure that you are working with the very latest product specifications, please consult the relevant section of the James Walker website www.jameswalker.biz

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