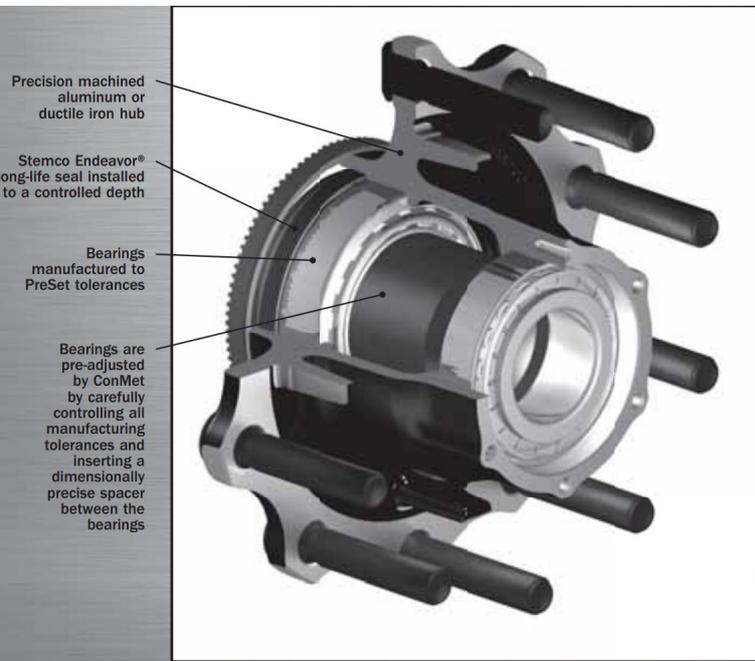




Product Information

WHEEL SEALS/PTFE SEALS





For wheels ends, the road, weather and frequent braking can dish out some serious punishment. And if wheel seals fail, wheel-end performance may be diminished, ultimately leading to costly repairs and downtime.

The leading cause of premature wheel-seal failure is damage to the seal during installation. WSI wheel seals not only provide outstanding lubricant retention and protection against contaminants, but they are also easier to install, which significantly decreases the potential for damage during installation.

That's the idea behind WSI wheel seals. The result is longer seal life and a lower cost of operation.

Easy To Fit. Hard To Damage.

WSI wheel seals have been designed with an extremely stiff profile and one of the thickest steel cases used in a seal today. So the potential for installation damage is virtually eliminated. Best of all, you can use any tool to install it—even your hands.

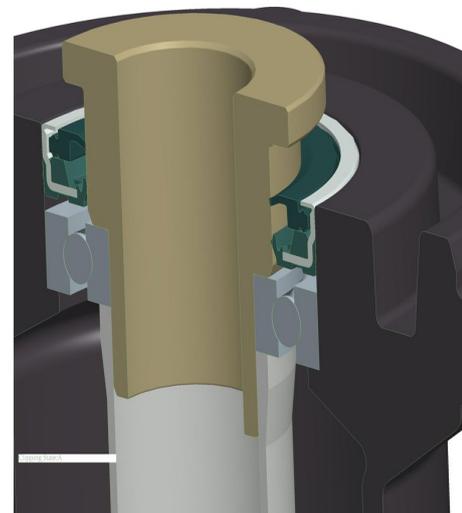
Superior Protection

The multi-zone labyrinth design and low-friction barrier deliver unmatched durability and protection against dirt, grime, water and other contaminants. The bumper transmits the fitting force from the front of the seal to the outer diameter, and acts as the first defense against contaminants. The multi-zone labyrinth features low-profile section right-angle corners, a low-friction barrier, two rubber wipers and a specifically formulated waterproof grease – for superior protection.

A Choice Of Grades.

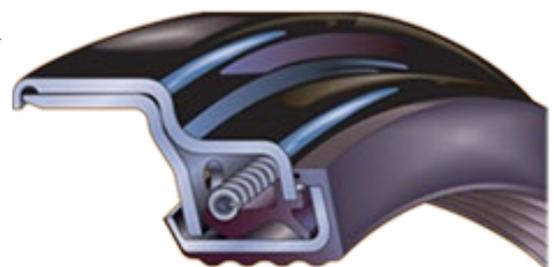
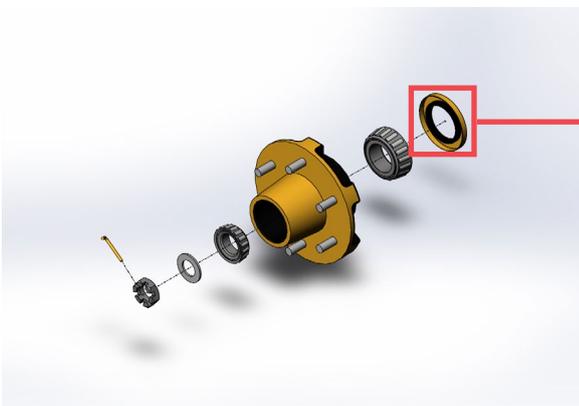
Designed for drive, steer and trailer axles, WSI wheel seals are available in Standard and Premium versions.

Our Standard wheel seals feature a nitrile compound rubber (NBR) for the sealing lip. Our Premium wheel seals feature a hydrogenated nitrile butadiene rubber (HNBR), offering additional advantages of higher temperature capability, greater wear resistance, and compatibility with all known synthetic lubricants.



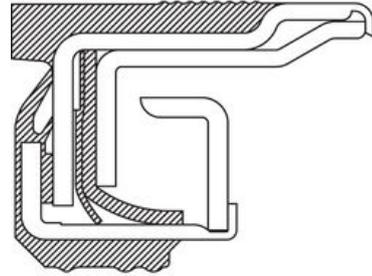


Standard Wheel Seals				
Application	SKF [®] /CR Classic	National [®] Red	Stemco [®] Voyager	DANA [®]
Trailer	46305	370025A	373-0143	—
Drive	47697	370003A	393-0173	—
Steer	35066	370001A	383-0136	—
Trailer	42623	370065A	373-0123	—
Drive	38780	370023A	393-0112	—
Steer	43764	370048A	383-0164	—
Trailer	40136	370036A	373-0113	—
Drive	45099	370022A	393-0103	—
Drive	42672	370031A	393-0104	—



What are the Advantages of PTFE seals?

The advantages of PTFE seals are listed below, and have been known since its accidental discovery in 1938, but the main reason why PTFE seals are becoming more widely used is that they allow machinery to run faster, hotter and more efficient for longer. PTFE seals allow manufacturers to offer extended maintenance periods and extended warranties.

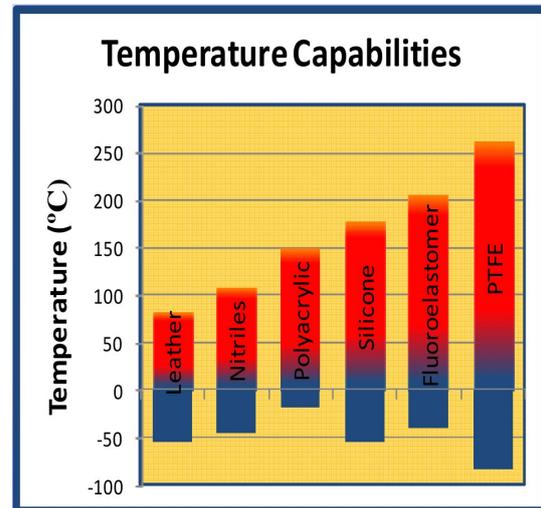


Speed Capability

The seal material temperature capability in addition to the friction and wear has a direct influence on the speed capability of the seal. PTFE seals have been known to run above 50m/s, with the limiting factor usually being the temperature capability of the sealed fluid.

Chemical Inertness

Unlike rubbers which will degrade at a rate depending upon factors such as temperature, fluid compatibility and even UV, PTFE is inert to all but a few extreme chemicals.



Low Friction & Wear

These are intrinsically linked, with one of the main benefits being its dry running capability. The low friction increases efficiency, and the low wear increase seal life far beyond what can be achieved with a conventional rubber seal.

Why are all seals not made from PTFE?

If PTFE did not have any downsides then every seal would be made from PTFE. The main downside of PTFE is the extra cost compared to rubber seals, but another issue is the fact that PTFE is a semi-rigid material. This actually has both its benefits and its downsides, the latter being that it is easily scratched, thus causing potential leaks, and also that it is not as effective at static sealing, particularly for low viscosity fluids. The benefit is that it can be 'laid down' onto the shaft thus creating a line contact, thus reducing seal wear and shaft grooving, which can be a major problem for rubber seals.

How a PTFE Seal Works

PTFE is not as flexible as rubber, so to ensure leakage does not occur, PTFE seals are usually limited to one directional shafts for low viscosity fluids like engine oil. The sketches below show a typical PTFE seal, with a scroll embossed into the PTFE which pumps the fluid back to the bearings due to the rotation of the shaft.

PTFE Seal Designs and Typical Applications

There are effectively 3 Construction types as shown below, each with their own benefits depending upon the application, size & quantity.



Moulded

This type is now the most common having superseded the majority of clamped design seals, particularly for engines, due to technical and cost benefits. The PTFE element is first etched, then bonded during the moulding operation, ensuring a very secure static seal compared to the clamped designs. A selection of rubbers can be used to suit the application, but the most common is polyacrylic.

Clamped

The clamped design offers many design options, where small quantities can be produced with minimal tooling cost. These are now used mainly for smaller seals or where there is pressure, such as for compressors and small pumps. With this design, the PTFE is clamped between two shells, and a rubber gasket. The seal OD is usually metal, either ground or with a sealant applied.



Crimped - Solid Body

This design is used primarily for food /pharmaceutical applications and motorsport. Again, they offer many design options, and small volumes can be produced with minimal tooling cost. The PTFE is fitted into a groove, then the metal crimped into the PTFE. Typical shell materials are SS or Aluminium.

Seal In Performance.

WSI wheels seals are engineered to deliver optimum performance – protecting against contaminants for long life and low cost of operation. Look for the WSI wheel seal part number to make sure you're getting the most durable and reliable seal.

More Protection From An Industry Leader.

Our highly trained customer support team is equipped with the product specification, warranty and service information you need.

For complete support, visit www.wsioilseal.com.tw—our industry-leading online catalog, ordering and tracking system—with real-time access to complete parts information resources. For the total service and support you deserve, call our Customer Care Center at 886-4-8651759. Or visit www.wsioilseal.com.tw.

Premium Wheel Seals				
Application	SKF/CR PlusXL Longlife	National "Gold" 5-Star	Stemco Discover	DANA Outrunner
Trailer	46300	380025A	373-0243	859
Drive	47692/47691 (Abs)	380003A	393-0273	861
Steer	35058	380001A	383-0236	847
Trailer	42627	380065A	373-0223	851
Drive	38776	380023A	393-0212	849
Steer	43761	380048A	383-0264	863
Trailer	40129	380036A	373-0213	850
Drive	45093	380022A	393-0203	856
Drive	42673	380031A	393-0204	852



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