

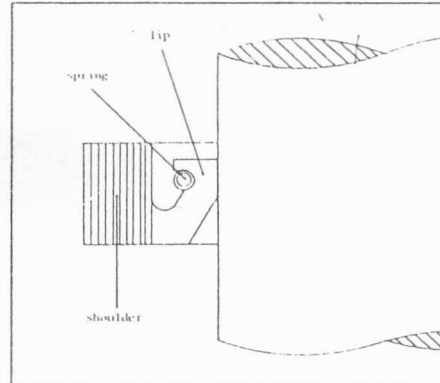


SPLIT SEALS

1. Introduction

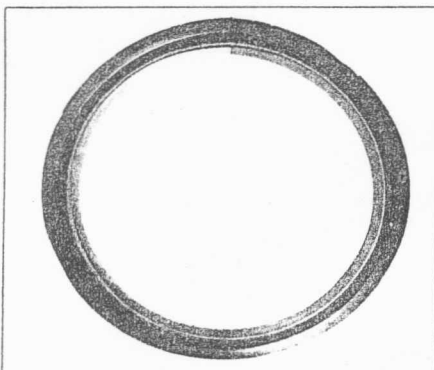
1.2 The Split Seal

The Split-Seal has been originally developed to meet the requirements of steel mills, (rolling cylinders, gear boxes, etc.), and of heavy mechanics, now its acceptance is so widespread that Split-Seals are utilized on any type of rotating shaft where oil, grease, water, or any other fluid has to be sealed. The Split-Seal is very simple and consists of a lip, made of a special self-lubricating rubber compound, loaded by a stainless steel toroidal spring which provides a controlled force on the lip and a robust shoulder made of cotton fabric proofed with rubber and moulded together with the lip.



The lack of rigid metal components and the full resilient nature of Split-Seals offer a number of advantages.

- First of all fitting: the Split-Seal is simply introduced into the housing by hand with no need of tools or hammer. The same benefit applies when the seal has to be removed;
- the Split-Seal is press fitted both on the O.D. and the depth thus ensuring O.D. sealing without requiring the use of gasket cements;
- in case of mis-fitting the lack of metal components, besides the small spring, avoids any possible damage to shaft or housing. For large bearings with metal case oil seals this hazard may have very serious consequences;
- the Split-Seal has perfect adaptability also to non perfectly circular grooves and does not require close bore tolerances thanks to the calibrated press fit between the seal and the housing;
- the Split-Seal may absorb relatively large eccentricities;
- it can be installed in split form maintaining all benefits of the endless type except the absorption of severe eccentricity;
- the diameters of the Split-Seal are larger than the nominal ones that the Split-Seal achieves only after installation; consequently all parts, including the lip, are compressed and this avoids tear hazard due to abrasive dust or scaling that might penetrate the lip; tear that is unavoidable with metal case seals where the lip edge is always stretched;
- the Split-Seal will not rust, including the spring that is stainless steel, and may be supplied in a range of materials capable of withstanding any corrosive fluid, including phosphate esters;



- the lip profile is designed to follow possible shaft displacements the spring action being supplementary and not essential; consequently the spring provides only a calibrated minimum load and avoids unnecessary wear to the lip and the shaft;
- the lip profile is designed to have inherent anti-twisting properties when the shaft is introduced into the bearing;
- the Split-Seal may be re-utilized after dismantling, if found in good condition, as it does not become ovalized nor undergoes any initial bedding-in and consequently can be refitted in any position.