WORLD GASKET™
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Case history
ROD SEAL – PACKING REPLACEMENT

In view of continuous improvement and in function of new requirements demanded by the markets, we have renewed the seals series defined as Packing, rubber fabric rod seals for the construction machinery market, working on the raw material and parts section.

Part number list:

1H4492	2J1408	3K8350
1J2148	2K0050	4F8420
1K7110	2K4434	4J5830
1K7112	3D1123	4J6897
1K7114	3F9609	5F3498

THE INITIAL GOALS WERE:

A) Thermoplastic suitable for new hydraulic oils and extreme operating conditions
B) Thermoplastic suitable for the effect of hydrolysis and humidity
C) Longer seal life as a function of the new section
D) Ease of assembly
E) Better sealing at low and high pressures
F) Better resistance to water hammer

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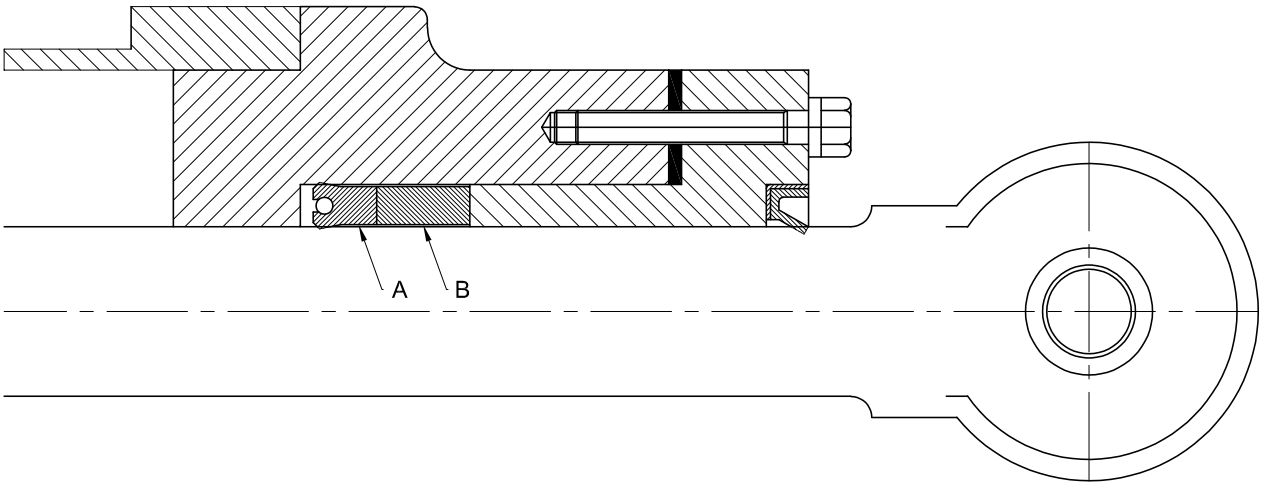
OUR SOLUTIONS:

(A) The thermoplastic developed for the SEAL-U-CUP & O-RING seal range is a member of the polyester urethane family; the new material has improved elastic modulus characteristics and low permanent deformation; it offers excellent wear resistance and a temperature range from -40 C° to 120 C°.

(B) The new thermoplastic for the anti-extruder ring is made of acetal resin plastic with an operating temperature range from -40 C° to 120 C°.

(C) The new thermoplastic features improved resistance to hydrolysis, giving it a longer service life in new HFA- and HFB-based oils and absolute stability in storage situations where high humidity is present.

(D) To guarantee sealing at high and low pressures and to avoid oil seepage at low pressures: in oleodynamic applications operating at pressures below 40 bar or anyway in the lowest pressure phases of the cycle, the greatest leakage occurs. To guarantee the seal at high pressures up to 500 bar by increasing the life of the seal working on the part section. For these reasons, it was decided to abandon classic Packing, choosing an asymmetrical lip seal energised by a rubber toric ring with the addition of an anti-extrusion ring.



(Section A) *The new section consists of the combination of an O-RING with a symmetrical lip seal. The advantages of both types of seal are achieved by the high elasticity of the O-RING and the significant abrasion resistance of the lip seal material. The special feature of this seal is mainly represented by the O-RING that, embedded between the lips, acts elastically on them, guaranteeing the necessary preload also at low pressure. As pressure increases, so does the radial compression transmitted by the deformation and the elastic memory from the O-RING itself.*

(Section B) *The introduction of the plastic anti-extrusion ring allows the seal to be used under extremely severe pressure conditions, up to 500 bar; this improves extrusion resistance, resistance to water hammer and abrasion.*

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