



Technical Report #12

***Recommendations for
The assembly of ptfe oil seals***

Technical Report

Purpose

Describe the suggestions to take into account when assembling PTFE seals.

Introduction

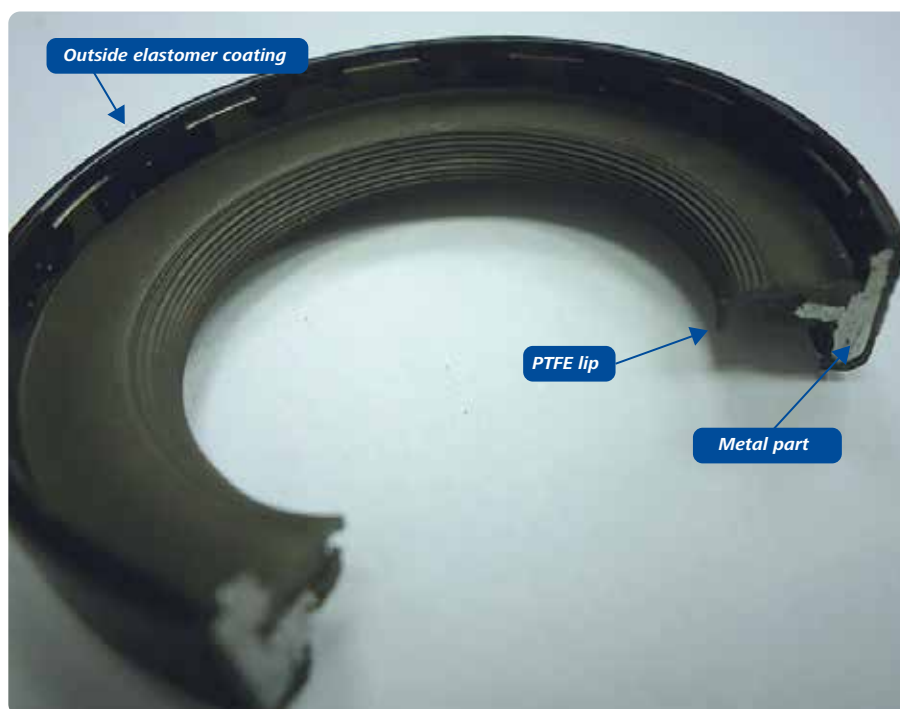
The engine performance of last generation make the oil seals to work under more and more strict conditions.

The polytetrafluoroethylene (by its acronym) and which is also known as Teflon, is a material with excellent thermic features in a wider range of temperatures than the rest of elastomers used in oil seals. Besides, it is highly resistant to chemicals, stress and wear.

Composition of a PTFE seal

The main differences respect the rest of oil seals concerning composition is the lack of a spring which helps the lip seal where it is assembled.

Generally, PTFE seals are made up by a metal part, an inside PTFE lip and an outside coating of acrylic rubber, though in some cases it may also be FKM (Viton) to protect the seal of polluting particles. In the case of industrial engines, the PTFE lip usually has a graphite coating, which allows certain lubrication.



Recommendations for assembly:

- 1** *It is not recommended to remove the applicator where the PTFE seal is assembled until installation is going to be made in the corresponding housing (see steps 5 and 6), since it may help during assembly.*



- 2** *If the seal is installed without the help of the applicator, special tools must be used (see repair manual).*
- 3** *Remove the seal to be replaced and the housing, avoiding hitting and/or scratching the surfaces to be sealed. If burrs are present, they must be removed.*
- 4** *Verify that both the housing and the PTFE seal are dry before assembly. PTFE seals must NEVER be lubricated.*
- 5** *Place the applicator axis where the PTFE is assembled respect the housing axis.*
- 6** *Push the PTFE seal with a uniform movement until it is perfectly settled in the corresponding place. At this step, the PTFE seal is separated from the applicator.*



- 7** *It must be four hours since the installation of the seal until the engine is started, to allow it to completely adapt to its housing.*