

Dynamic oil compatibility tests for radial shaft seals for use in FLENDER gear units

This test specification is based on the Freudenberg test specification FS PLM 111 0008 „Dynamic oil compatibility tests for Freudenberg radial shaft seals to release the usage in FLENDER-gear units applications (Table T 7300)“ which was developed in cooperation between Freudenberg Sealing Technologies and Flender. This document presents additions and adaptations to the underlying test specification which must be considered when using the test method for a Flender lubricant approval.

Test Documentation

1. General information

The test is to be performed according to the underlying test procedure (see above) and may only differ where it is explicitly stated in this document.

2. Test parts

The tests must be carried out with specially measured test parts – in this case radial shaft seals and shafts. Table 1 lists allowed suppliers for the test parts.

In exceptional cases it is possible to deviate from the manufacturers, the materials and/or the sizes - for example for certain practical application tests. However, this is not permitted without prior consultation with Flender, so that any test results cannot be evaluated within the scope of the Flender lubricant approval.

Table 1 Test parts and suppliers

Part	Material	Size	Supplier	Article No.
Test seal	72 NBR 902	BAU3X2 35-52-7	Freudenberg	49408254
Test seal	75 FKM 585	BAU3X2 35-52-7	Freudenberg	49435125
Test seal	75 FKM 260466	BAU3X2 35-52-7	Freudenberg	49435127
Test seal	75 FKM 170055	BAU3X2 35-52-7	Freudenberg	49435124
Test shaft	18CrNiMo7-6	Freudenberg „Laufzapfen Ø35 Siemens/Flender“	Freudenberg	-
Test shaft	18CrNiMo7-6	Freudenberg „Laufzapfen Ø35 Siemens/Flender“	Flender GmbH	-

3 Test report

The test report has to contain not only the measured material parameters but also some information about the test conditions. The following information are mandatory for a report:

1. General information
 - a. Date
 - b. Order number
 - c. Test number
 - d. Customer
2. Test information
 - a. Test-rig operator
 - b. Start of test
 - c. Compound
 - d. Compound batch number
 - e. Test laboratory
 - f. Identification number of measurement equipment (Microscope, hardness tester,...)
 - g. Abnormalities in the test
3. Information about tested medium
 - a. Sample name
 - b. Batch
 - c. Type of oil (PAO, PG, MIN, ...)
 - d. API class
 - e. Nominal viscosity grade
 - f. Volume
4. Test results
 - a. Mechanical/physical evaluations
 - b. Visual findings
 - c. Evaluation of test results in points
 - d. Photo documentation of tested seals

Contact

Flender GmbH
Alfred-Flender-Strasse 77
46395 Bocholt
lubricants@flender.com