

FRICION TEST

Polyurethane + MoS2 grey U203-GM95

Friction characteristics of polymer seals

Tests have been performed in May 2001 by Prof. Per Carlson, Dalarna University, Borlänge, Sweden.

Materials

Two different polymer seals were included in the tests:

1. Competitor polyurethane (red colour, H-PU)
2. Polyurethane, MoS2 added (grey colour, Seal Maker PU U203-GM95)

Pin-on-disc testing

A pin-on-disc apparatus was used to evaluate the materials in a well-controlled multiple passage sliding contact. In this test a ball bearing steel ball (diam. 8.0 mm) was drawn over the surface several revolutions in the same circular track, see fig. 1. During the tests the coefficient of friction were continuously recorded and digitally documented. A constant normal load of 4 N and a sliding speed of 0.1 m/s were applied in all the experiments. Before testing the steel ball was ultrasonically cleaned in acetone and alcohol.

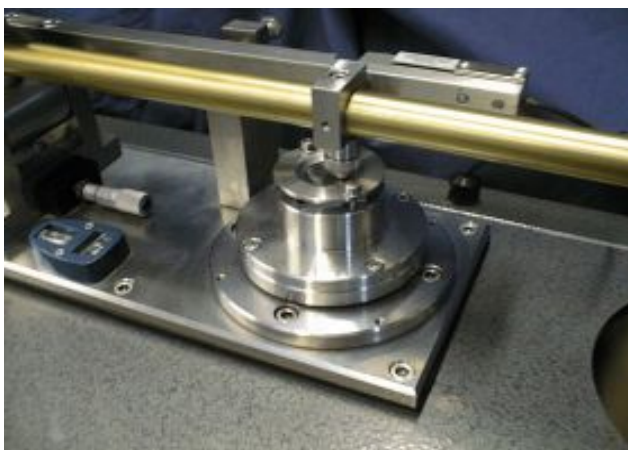


Figure 1. Principle of the pin-on-disc test method

Results

The coefficient of friction of the grey sample was relatively low (0.15-0.30) during the test (500 passages) while the red sample shows high friction values already from the start of the test.

