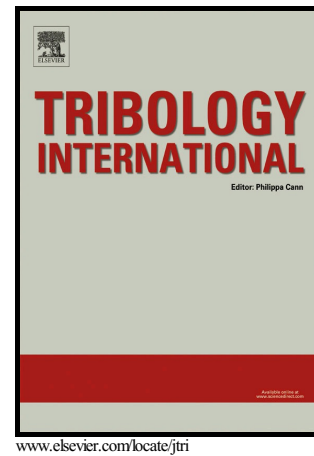


Author's Accepted Manuscript

A new approach on grease tribology in sealing technology: Influence of the thickener particles

Max Sommer, Werner Haas



PII: S0301-679X(16)30248-1
DOI: <http://dx.doi.org/10.1016/j.triboint.2016.08.002>
Reference: JTRI4308

To appear in: *Tribology International*

Received date: 16 May 2016
Revised date: 31 July 2016
Accepted date: 2 August 2016

Cite this article as: Max Sommer and Werner Haas, A new approach on grease tribology in sealing technology: Influence of the thickener particles, *Tribology International*, <http://dx.doi.org/10.1016/j.triboint.2016.08.002>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

A new approach on grease tribology in sealing technology: Influence of the thickener particles

Max Sommer*

*Institute of Machine Components (IMA), University of Stuttgart, Germany
Currently: Freudenberg New Technologies SE & Co. KG, Weinheim, Germany*

Werner Haas

Institute of Machine Components (IMA), University of Stuttgart, Germany

Abstract

Tests on the influence of different grease thickeners on the operational behavior were performed using both, a ring-on-disc set up and a test rig for radial shaft seals. Friction coefficients, wear and seal pumping were measured and correlated with the size and shape of the thickener particles. It could be shown, that thickener particles are present in the sealing gap and are influencing the performance of the sealing system.

Keywords: Lubricating grease, thickener, sealing technology, soft contact

1. Introduction

Radial shaft lip type seals according to [1] are widely used as oil seals. Their operational behavior and sealing mechanism were examined by various authors and therefore is comparatively well understood. The sealing lip is lubricated with a thin oil film during operation [2]. This soft elastohydrodynamic lubrication is driven by a micro-hydrodynamic elevation of pressure at the roughness asperities of both, sealing lip (elastic solid) and counter face (rigid solid) [3]. The low contact pressures in the sealing contact are not affecting the lubricant

*Corresponding author

Email address: max.sommer@freudenberg.de (Max Sommer)

Download English Version:

<https://daneshyari.com/en/article/7002396>

Download Persian Version:

<https://daneshyari.com/article/7002396>

[Daneshyari.com](https://daneshyari.com)