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AN INDUSTRY STANDARD FOR FLUID POWER

Information report – Fluid power systems – Sealing devices – Storage, handling and installation of elastomeric seals and exclusion devices

[Revision of ANSI/(NFPA)T3.19.25-1998]

Descriptors: storage handling installation elastomer seals molded performs fabricated thermoset compounds

published by

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Foreword

The foreword is not part of National Fluid Power Association (NFPA) *Information report – Fluid power systems – Sealing devices – Storage, handling and installation of elastomeric seals and exclusion devices* NFPA/T3.19.25 R1-2002.

This project was initiated at the 21 September 2001 meeting of the Sealing Devices Section, NFPA/T3.19. Dr. Zielinski agreed to serve as Project Chair and reported that he was revising table 1 of the document to be similar to ARP 5316.

At the 8 February 2001 meeting, the group reviewed and made changes to draft no. 1 of NFPA/T3.19.25. Headquarters made the recommended changes to the document. In December 2001, the general review was circulated to committee members for comments.

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Introduction

In response to inquiries concerning age limits, packaging, storage and general installation of elastomer seals, the following document was prepared. The document provides general guidelines and references for the reader to use as a starting point to address his or her specific applications.

While these guidelines are applicable to all elastomeric seals and exclusion devices, O-rings have been used as the example seal in the text.

Information report – Fluid power systems – Sealing devices – Storage, handling and installation of elastomeric seals and exclusion devices

1 Scope

This information report addresses the storage, handling, and installation of elastomer seals in broad terms. Information regarding specific elastomers and seal geometries should be obtained from the seal supplier. The elastomer seals addressed in this document are molded preforms fabricated from thermoset elastomeric compounds. The only exceptions to this are urethane elastomers, which can either be thermoset or thermoplastic.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this NFPA document. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this NFPA document are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referenced applies. NFPA maintains registers of currently valid NFPA Standards. Standards development organization contact information and links can be found on the NFPA website **(www.nfpa.com).**

SAE AIR 1707 *(latest edition), Patterns of O-Ring Failures.*

SAE AMS 2817 *(latest edition), Packaging and Identification Preformed Packings.*

SAE ARP 5316 *(latest edition), Storage of Elastomeric Seals and Seal Assemblies which Include an Elastomer Element Prior to Hardware Assembly.*

SAE J 200 *(latest edition), Classification systems for rubber materials.*

ASTM D1418 *(latest edition), Standard Practice for Rubber and Rubber Lattices-Nomenclature.*

ASTM D2000 *(latest edition), Standard Classification System for Rubber Products in Automotive Applications.*

ISO 5598 *(latest edition), Fluid power systems and components – Vocabulary.*

MIL-HDBK-695 *(latest edition), Military standardization handbook, rubber products: recommended shelf life.*

3 Definitions

For the purposes of this information reports, the terms and definitions given in ISO 5598 apply.