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Aerospace series — Hydraulic filter elements — Test methods —

Part 1: Test sequence

Série aérospatiale — Eléments filtrants hydrauliques — Méthode d'essais —

Partie 1: Séquence d'essais

Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

ISO 14085-1 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 10, *Aerospace fluid systems and components*.

ISO 14085 consists of the following parts, under the general title *Aerospace series — Hydraulic Filter elements — Test methods*:

— *Part 1: Test sequence*

— *Part 2: Conditioning*

— *Part 3: Filtration efficiency and retention capacity*

— *Part 4: Verification of collapse/burst pressure rating*

— *Part 5: Resistance to flow fatigue*

— *Part 6: Initial cleanliness level*

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Introduction

In aerospace hydraulic fluid power systems, power is transmitted and controlled through a liquid under pressure. The liquid is both a lubricant and power-transmitting medium. The presence of solid contaminant particles in the liquid interferes with the ability of the hydraulic fluid to lubricate and causes wear and malfunction of the components. The extent of contamination in the fluid has a direct bearing in the performance, reliability, and safety of the system, and needs to be controlled to levels that are considered appropriate for the system concerned.

Filters are used to control the contamination level of the fluid by removing solid contaminant particles, typically consisting of a filter element enclosed in a filter housing. The filter element is the porous device that performs the actual process of filtration. The complete assembly is designated as a filter.

Filter element performance is measured by testing, and a series of International Standards have been developed to quantify performance under specified conditions (see Clause 2). To provide a greater level of assurance for a filter element's fitness for duty, a verification test program is intended to be based on most of these International Standards. This test sequence has been developed to fulfill that requirement.

The purpose of this part of ISO 14085 is to define a sequence of testing and provide guidelines for acceptance criteria.

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Aerospace series — Hydraulic filter elements — Test methods —

Part 1: Test sequence

1 Scope

This part of ISO 14085 specifies a test sequence for evaluation of characteristics of the hydraulic fluid filter elements under standard conditions.

This part of ISO 14085 is not intended to qualify a filter element under replicate conditions of service; this can only be done by a specific test protocol developed for the purpose, including actual conditions of use, for example the operating fluid or contamination.

The tests data resulting from application of this part of ISO 14085 can be used to compare the performance of aerospace hydraulic filter elements.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2942, *Hydraulic fluid power — Filter elements — Verification of fabrication integrity and determination of the first bubble point*

ISO 5598, *Fluid power systems and components — Vocabulary*

3 Terms and definitions

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

4 Test equipment and materials

Test equipment and material are those specified in each individual part of this International Standard.

5 Accuracy of measuring instruments and test conditions

Accuracy of measuring instruments and test conditions are described in each individual part of this International Standard.

6 Test sample

The filter elements selected for the evaluation testing shall be representative production stock of the same part number and date of build and/or manufacturing lot.

Select at least three filter elements, as some of the tests are destructive and the elements cannot be used for further testing following these tests.

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