

This is a preview of "ISO 14085-4:2015". [Click here to purchase the full version from the ANSI store.](#)

First edition  
2015-03-01

---

---

## **Aerospace series — Hydraulic filter elements — Test methods —**

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

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

*Partie 4: Vérification de la résistance à l'éclatement/écrasement*



Reference number  
ISO 14085-4:2015(E)

© ISO 2015



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2015

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland

This is a preview of "ISO 14085-4:2015". [Click here to purchase the full version from the ANSI store.](#)

## Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Symbols and abbreviated terms</b> .....	<b>2</b>
<b>5 Test circuit and equipment</b> .....	<b>2</b>
<b>6 Accuracy of measurements and variations of test conditions</b> .....	<b>3</b>
<b>7 Test procedure</b> .....	<b>3</b>
<b>8 Reporting</b> .....	<b>4</b>
<b>9 Acceptance criteria</b> .....	<b>5</b>
<b>Annex A (informative) Test data report form</b> .....	<b>6</b>
<b>Annex B (informative) Examples of abrupt decrease in the slope of the differential pressure versus contaminant mass added curve and increase in particle counts</b> .....	<b>7</b>
<b>Bibliography</b> .....	<b>9</b>

## 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](http://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](http://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](#)

The committee responsible for this document is 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: Cleanliness level*

This is a preview of "ISO 14085-4:2015". [Click here to purchase the full version from the ANSI store.](#)

## 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.

As a filter element removes contaminant due to its efficiency, the filter element clogs and its differential pressure increases to values which can affect its structural integrity. The capability of the filter element to maintain a specified fluid cleanliness level depends on its performance and structural integrity, which can both be affected if the filter element differential pressure becomes too high.

A collapse/burst test quantifies the resistance of the filter element to high differential pressures that can occur both due to filter clogging, as well as that occurring in non-steady state operating conditions such as cold starts and decompression surges.

This part of ISO 14085 provides a procedure to verify that a filter element can withstand a designated high differential pressure without failure.