



DPC: 14 / 30314166 DC

BSI Group Headquarters

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

Date: 02 October 2014

Origin: European

Latest date for receipt of comments: 2 January 2015

Project No. 2009/01617

Responsible committee: ACE/69 Aerospace hydraulic systems, fluids and components

Interested committees:

Title: Draft BS EN 6109 Aerospace series - Static seal elements elastomer, moulded, phosphate ester resistant - Technical specification

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

**WARNING: THIS IS A DRAFT AND MUST NOT BE REGARDED OR USED AS A BRITISH STANDARD.
THIS DRAFT IS NOT CURRENT BEYOND 2 January 2015**

This draft is issued to allow comments from interested parties; all comments will be given consideration prior to publication. No acknowledgement will normally be sent. **See overleaf for information on the submission of comments.**

No copying is allowed, in any form, without prior written permission from BSI except as permitted under the Copyright, Designs and Patent Act 1988 or for circulation within a nominating organization for briefing purposes. Electronic circulation is limited to dissemination by e-mail within such an organization by committee members.

Further copies of this draft may be purchased from BSI Shop <http://shop.bsigroup.com> or from BSI Customer Services, Tel: +44(0) 20 8996 9001 or email cservices@bsigroup.com. British, International and foreign standards are also available from BSI Customer Services.

Information on the co-operating organizations represented on the committees referenced above may be obtained from <http://standardsdevelopment.bsigroup.com>

Responsible Committee Secretary: **Committee Service Centre (BSI)**
Direct tel: **020 8996 7009**
E-mail: csc@bsigroup.com

AVA Documents
Document Sharing Hub

Introduction

This draft standard is based on European discussions in which the UK has taken an active part. Your comments on this draft are welcome and will assist in the preparation of the consequent British Standard. Comment is particularly welcome on national, legislative or similar deviations that may be necessary.

Even if this draft standard is not approved by the UK, if it receives the necessary support in Europe, the UK will be obliged to publish the official English Language text unchanged as a British Standard and to withdraw any conflicting standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with reasons) or positive vote on this draft.

Submission of Comments

- The guidance given below is intended to ensure that all comments receive efficient and appropriate attention by the responsible BSI committee. **Annotated drafts are not acceptable and will be rejected.**
- All comments must be submitted, preferably electronically, to the Responsible Committee Secretary at the address given on the front cover. Comments should be compatible with version 6.0 or version 97 of Microsoft Word for Windows, if possible; otherwise comments in ASCII text format are acceptable. **Any comments not submitted electronically should still adhere to these format requirements.**
- All comments submitted should be presented as given in the example below. Further information on submitting comments and how to obtain a blank electronic version of a comment form are available from the BSI website at:
<http://drafts.bsigroup.com/>

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
------------------	------------------------

1	2	(3)	4	5	(6)	(7)
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/ Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	

ASD STANDARD NORME ASD ASD NORM Draft 2	prEN 6109:2014 Edition P2 2014-09-19
	PUBLISHED BY THE AEROSPACE AND DEFENCE INDUSTRIES ASSOCIATION OF EUROPE - STANDARDIZATION Rue Montoyer 10 - 1000 Brussels - Tel. + 32 2 775 8126 - Fax. + 32 2 775 8131 - www.asd-stan.org
ICS: Descriptors: ENGLISH VERSION Aerospace series — Static seal elements elastomer, moulded, phosphate ester resistant — Technical specification Luft- und Raumfahrt — Statische Dichtungen Elastomer, geformt, beständig gegen Phosphorsäureester — Technische Lieferbedingungen Série aérospatiale — Joint d'étanchéité statique élastomère, moulé, résistant à l'ester phosphorique — Spécification technique	
Edition approved for publication	Comments should be sent within six months after the date of publication to ASD-STAN

[White page](#)

Contents

Page

1	Scope	4
2	Normative references	4
3	Terms and Definitions	5
4	Requirements	6
4.1	General requirements	6
4.1.1	Manufacturing schedule	6
4.1.2	Trace ability	7
4.1.3	Freedom of defects	7
4.1.4	Workmanship	7
4.1.5	Hazardous constituents	7
4.2	Technical requirements	7
4.2.1	Material	7
4.2.2	Specific	7
5	Quality assurance	8
5.1	Test methods	8
5.1.1	General	8
5.1.2	Specific	8
5.2	Manufacturer's responsibility	8
5.3	Product qualification	8
5.3.1	Qualification testing	9
5.3.2	Qualification retesting	9
5.3.3	Qualification test report	9
5.4	Re-qualification	10
5.5	First article inspection (FAI)	10
5.6	Acceptance test	10
5.6.1	General	10
5.6.2	Inspection sampling	10
5.6.3	Acceptance testing	11
5.6.4	Acceptance test certificate	11
5.7	Capability clause	11
5.8	Re-testing and rejection	11
5.8.1	Re-testing	11
5.8.2	Rejection acceptance	12
5.9	Warranty	12
5.10	Audit	12
6	Preparation for delivery	12
6.1	Packaging	12
6.2	Identification of marking of packages	12
6.3	Shipment	13
7	Storage and storage life	13
7.1	Storage	13
7.2	Storage life	13

1 Scope

This technical specification defines the requirements for moulded elastomer seal elements for use in hydraulic systems using phosphate ester fluids for aerospace application. It shall be applied in conjunction with relevant material standards unless otherwise specified on the drawing, order, inspection schedule or contractual document.

2 Normative references

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

ISO 48, *Rubber, vulcanized or thermoplastic — Determination of hardness (hardness between 10 IRHD and 100 IRHD)*

ISO 188, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*

ISO 1817, *Rubber, vulcanized — Determination of the effect of liquids*

ISO 2781, *Rubber, vulcanized — Determination of density*

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 3601-3, *Fluid systems — Sealing devices — O-rings — Part 3: Quality acceptance criteria*

ISO 23529, *Rubber — General procedures for preparing and conditioning test pieces for physical test methods*

EN 2751, *Aerospace series — Storage conditions for rubber products — Requirements for storage, cleaning and maintenance*¹⁾

EN 3445, *Aerospace series — Guidelines for the permissible storage life of rubber products*¹⁾

EN 6075, *Aerospace series — Static seal elements O-Ring ethylene-propylene, moulded, phosphate ester resistant (–55 °C to 107 °C) — Inch series*²⁾

EN 6076, *Aerospace series — Static seal elements O-Ring straight thread tube fitting boss, ethylene-propylene, moulded, phosphate ester resistant (–55 °C to 107 °C) — Inch series*²⁾

EN 6102, *Aerospace series — Fluid — Hydraulic — Phosphate ester-base — Fire resistant — Technical specification*¹⁾

EN 9102, *Aerospace series - Quality systems - First article inspection*

EN 9133, *Aerospace series — Quality management systems — Qualification procedure for aerospace standard parts*

EN 10204, *Metallic products — Types of inspection documents*

ASTM D 1414, *Standard test methods for rubber O-rings*³⁾

1) In preparation at the date of publication of this standard.

2) Published as ASD-STAN Prestandard at the date of publication of this standard. <http://www.asd-stan.org/>