



**NSAI**  
Standards

Irish Standard  
I.S. EN 6111:2020

Aerospace series - Ethylene-propylene elastomer (EPM/EPDM) - Hardness 80 IRHD for static seal elements in hydraulic systems for long-term application - Material standard

**I.S. EN 6111:2020**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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## National Foreword

I.S. EN 6111:2020 is the adopted Irish version of the European Document EN 6111:2020, Aerospace series - Ethylene-propylene elastomer (EPM/EPDM) - Hardness 80 IRHD for static seal elements in hydraulic systems for long-term application - Material standard

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EUROPEAN STANDARD

EN 6111

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2020

ICS 49.025.40; 49.080

English Version

**Aerospace series - Ethylene-propylene elastomer  
(EPM/EPDM) - Hardness 80 IRHD for static seal elements  
in hydraulic systems for long-term application - Material  
standard**

Série aérospatiale - Élastomère éthylène propylène  
(EPM/EPDM) - Dureté 80 DIDC pour joints statiques  
dans les systèmes hydrauliques pour application à long  
terme - Norme de matériau

Luft- und Raumfahrt - Ethylen-Propylen-Elastomer  
(EPM/EPDM) - Härte 80 IRHD für statische Dichtungen  
in Hydraulik-Systemen für Langzeitanwendung -  
Werkstoffnorm

This European Standard was approved by CEN on 22 December 2019.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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## **European foreword**

This document (EN 6111:2020) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2021, and conflicting national standards shall be withdrawn at the latest by March 2021.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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## EN 6111:2020 (E)

### 1 Scope

This document defines the requirements of ethylene-propylene elastomer (EPM/EPDM) for seal elements for use as static seals in hydraulic systems using phosphate ester fluids, hardness 80 IRHD (International Rubber Hardness Degree) for long-term application for aerospace application.

Unless otherwise specified in the drawing, order or inspection schedule, this document shall be used in conjunction with the referenced documents.

Applicable temperature range:

- continuous service:  $-55\text{ °C}$  to  $107\text{ °C}$ ;
- intermittent service:  $-55\text{ °C}$  to  $120\text{ °C}$ .

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EN 6075, *Aerospace series — Static seal elements O-Ring ethylene-propylene, moulded, phosphate ester resistant ( $-55\text{ °C}$  to  $107\text{ °C}$ ) — Inch series*

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

EN 6109:2018, *Aerospace series — Static seal elements elastomer, moulded, phosphate ester resistant — Technical specification*

ISO 48-2, *Rubber, vulcanized or thermoplastic — Determination of hardness — Part 2: Hardness between 10 IRHD and 100 IRHD*

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

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

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

ASTM D 1414, *Standard Test Methods for Rubber O-Rings*<sup>1</sup>

ASTM D 3677, *Standard Test Methods for Rubber — Identification by Infrared Spectrophotometry*<sup>1</sup>

ASTM E 1131, *Standard Test Method for Compositional Analysis by Thermogravimetry*<sup>1</sup>

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<sup>1</sup> Published by: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, USA.



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