SLOVENSKI STANDARD
SIST EN 2432:2001

01-januar-2001

Aerospace series - Ethylene-propylene rubber (EPM/EPDM) - Hardness 90 IRHD

Aerospace series - Ethylene-propylene rubber (EPM/EPDM) - Hardness 90 IRHD

Luft- und Raumfahrt - Ethylen-Propylen-Elastomer (EPM/EPDM) - Härte 90 IRHD

Série aérospatiale - Elastomere éthylene-propylene (EPM/EPDM) - Dureté 90 DIDC

Ta slovenski standard je istoveten z: **EN 2432:1995**

ICS:

49.025.40 Guma in polimerni materiali Rubber and plastics

SIST EN 2432:2001 **en**

EUROPEAN STANDARD

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EN 2432

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Descriptors: aircraft industry, rubber, ethylene-propylene rubber, hardness

English version

Aerospace series - Ethylene-propylene rubber (EPM/EPDM) - Hardness 90 IRHD

Série aérospatiale - Elastomère éthylène-propylène (EPM/EPDM) - Dureté 90 DIDC

Luft- und Raumfahrt - Ethylen-Propylen-Elastomer (EPM/EPDM) - Härte 90 IRHD

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Foreword

This European Standard has been prepared by the European Association of Aerospace Manufacturers (AECMA).

After inquiries and votes carried out in accordance with the rules of this Association, this Standard has successively received the approval of the National Associations and the Official Services of the member countries of AECMA, 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of an identical text or by endorsement, at the latest by March 1996, and conflicting national standards shall be withdrawn at the latest by March 1996.

According to the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard:
Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

1 Scope

This standard specifies the properties of ethylene-propylene rubber (EPM/EPDM) [1], hardness 90 IRHD, for aerospace applications.

2 Normative references

This European Standard incorporates by dated or undated reference provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

ISO 1629 Rubber and latices - Nomenclature

ISO 1817 Rubber, vulcanized - Determination of the effect of liquids

EN 3207 Aerospace series - Rubber compounds - Technical specification [2]

3 Application of the material

The suitability of the material for a specific application shall be determined by complementary tests carried out on the finished product as the properties specified in this standard are obtained from standard test specimens.

3.1 Typical use

Application requiring a resistance to ozone, weather and phosphate ester based hydraulic fluids.

NOTE : This material shall not be used for the manufacture of dynamic seals in flight hydraulic systems.

3.2 Temperature range

- Continuous service : from - 55 °C to + 125 °C
- Intermittent service : from - 55 °C to + 160 °C

4 Properties

See tables 1 and 2.

For qualification, all tests shall be performed.

For batch acceptance, the tests identified in tables 1 and 2 shall be performed.

5 Designation

	Description block	Identity block
	RUBBER	EN2432

Number of this standard

6 Technical specification

EN 3207

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[1] Symbol as per ISO 1629
[2] In preparation at the date of publication of this standard

Table 1 - Test methods

Column / Line	1	2	3
	Properties	Units	Requirements
1	Hardness	IRHD	90 $^{+3}_{-4}$ *)
2			
3	Density	Mg/m^3	1) *)
4			
5	Tensile strength	MPa	11 min. *)
6			
7	Elongation at break	%	120 min. *)
8			
9	Modulus at - % strain	MPa	-
10			
11	Tear strength	N/mm	15 min.
12			
13	Resistance to low temperatures TR10	°C	- 30 max.
14	Crystallization	Point	-
15	Compression set		
15.1	after 70 h to 100 °C	%	40 max. *)
15.2	after - h to - °C		-
16			
17	Ozone resistance Ozone concentration : (200 ± 20) pphm Elongation of test piece : 20 % Time 168 h Temperature 30 °C	-	Nil cracking
18			
19	Corrosion and adhesion on metals in a dry atmosphere Time : - h Temperature : - °C	-	-
20	Corrosion and adhesion on metals in a damp atmosphere		
20.1	Time : - h Temperature : - °C Humidity : - %	-	-
20.2	Time : - h Temperature : - °C Humidity : - %	-	-
21			
22			
23			
24			
25			
26			
27			
28			
39			
30			

*) Test for batch acceptance
1) The value determined for each batch shall not differ from that determined at qualification by more than 0,02 Mg/m^3.

Table 2 - Tests after exposure to test media

Column / Line	1		2	3	4	5
1	Test media		-	Air	Test fluid 103 see ISO 1817	
2	Conditions of exposure in test media		Units	70 h/125 °C	24 h/100 °C	
3	Permitted variation of the properties compared to the initial value	Volume	%	-	+20 0 *)	
4		Mass	%	-	-	
5		Tensile strength	%	- 15 max.	- 30 max.	
6		Elongation at break	%	- 20 max.	- 20 max.	
7		Hardness	IRHD	+10 0	0 −15	
8						

*) Test for batch acceptance