
Aeronavtika - Vtič, zaščita, nekovinska, za končno vgradnjo po NAS1760 in glavni vhod AS33649

Aerospace series - Plug, protective, non-metallic, for NAS1760 fitting ends and AS33649 boss ports

Luft- und Raumfahrt - Stopfen, nicht metallisch, zum Schutz für Endfittings nach NAS1760 und Gehäuseanschlüsse nach AS33649

Série aérospatiale - Fiche, de protection, non métallique, pour raccords NAS1760 et trous de bossage AS33649

Ta slovenski standard je istoveten z: EN 6140:2020

ICS:

49.080	Letalski in vesoljski hidravlični sistemi in deli	Aerospace fluid systems and components
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English Version

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Gehäuseanschlüsse nach AS33649

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

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

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European foreword

This document (EN 6140:2020) 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of an identical text or by endorsement, at the latest by March 2021, and conflicting national standards shall be withdrawn at the latest by March 2021.

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EN 6140:2020 (E)**1 Scope**

This document specifies the dimensions, tolerances and required characteristics of protective plugs, non-metallic, for NAS1760 fitting ends and AS33649 boss ports to seal fluid ports during transportation and storage in order to prevent

- contamination by moisture, fluids, chemicals and particles,
- spillage inside package or aircraft section,
- port and pipe end damages and
- port and pipe clogging due to plug ingestion.

Because of the cleanliness requirements, parts shall only be used once.

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 2424, *Aerospace series — Marking of aerospace products*

EN 6079, *Pipe coupling 24° cone — Female fitting ends, flareless type — Inch series*¹

ISO 2768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

ISO 3161, *Aerospace — UNJ threads — General requirements and limit dimensions*

ISO 9940, *Aerospace series — Fluid, hydraulic, phosphate ester-base, fire resistant — Technical specification*

ISO 11218, *Aerospace — Cleanliness classification for hydraulic fluids*

AS4395B, *Fitting end, flared, tube connection, design standard*²

AS5202A, *Port or fitting end, internal straight thread, design standard*²

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

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

NOTE Until publication AS4375 can be used instead.

2 Published by SAE International (www.sae.org).

4 Requirements

4.1 Configuration, dimensions, tolerances and mass

The configuration, dimensions, tolerances and mass shall be in accordance with Figure 1 and Table 2.

Linear tolerances that are not specified shall be in accordance with ISO 2768-m.

All internal surfaces shall be free of burrs and moulding joints.

4.2 Material, surface treatment and colour

The material and colour shall be in accordance with Table 1.

The plugs shall be resistant to phosphate ester hydraulic fluids according to ISO 9940.

The surface of the parts shall be free of burrs and moulding joints.

Table 1 — Material

Code	Material	Density	Melt Flow Index (MFI)	Colour
—	Polyethylene (HD-PE)	0,940 to 0,970	to 15,0	Red (e.g. AMS-STD-595 No. 11302 or No. 11310)

4.3 Sealing areas

Contact surface mates with the dimensions and tolerances of the fitting part (see Figure 2, Figure 3 and Figure 4).

4.4 Proof pressure

100 kPa (1 bar)

4.5 Temperature range

4.5.1 Storage and transportation temperature

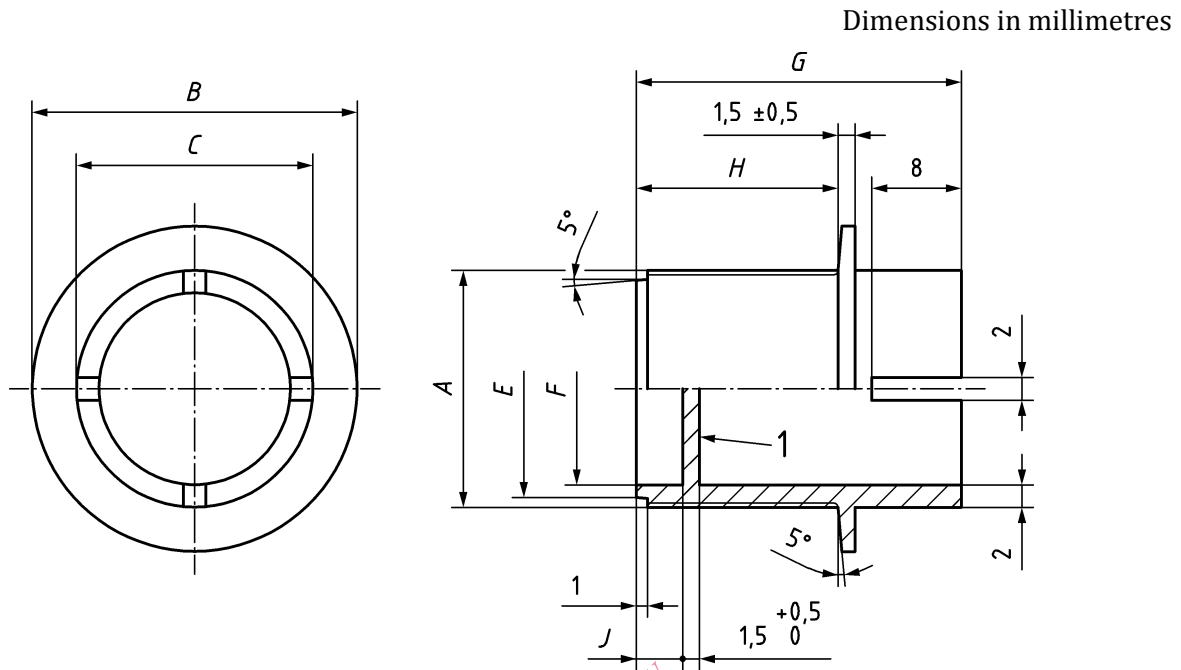
−54 °C to 85 °C

4.5.2 Installation and removal

At room temperature (25 ± 10) °C.

4.5.3 Cleanliness

Parts shall be in accordance with ISO 11218, class 7 or better.

**Key**

1 Marking area

Unless otherwise specified all radius shall be $R = (1,0 \pm 0,2)$ mm.**Figure 1 — Configuration and dimensions****Table 2 — Dimensions and mass**

Dimensions in millimetres

Size code ^a	A Thread according to ISO 3161	$\varnothing B$	$\varnothing C$	$\varnothing E$	$\varnothing F$	G	H	J	Mass g
04	.4375-20UNJ-F	18,0	11,1	9,1	8,1	23,0	12,0	2,20	1,5
05	.5000-20UNJ-F	19,5	12,5	10,6	9,7			2,56	1,6
06	.5625-18UNJ-F	21,0	13,9	12,1	11,2			2,39	2,0
08	.7500-16UNJ-F	26,0	18,3	16,0	15,3	24,0	14,0	3,30	3,4
10	.8750-14UNJ-F	29,0	21,1	19,5	18,5	29,0	18,0	4,14	4,5
12	1.0625-12UNJ	35,0	25,3	24,0	21,6	30,0	19,0	3,45	7,0
16	1.3125-12UNJ	42,0	31,5	30,0	28,0			3,35	8,1
20	1.6250-12UNJ	49,0	39,2	38,0	34,4			3,28	12,3
24	1.8750-12UNJ	55,0	45,6	44,0	40,7	33,0	22,0	5,00	16,6

^a Size code corresponds to the nominal tube diameter in 1/16 inch.

5 Technical requirement

5.1 General

For qualification, 3 specimens per size shall be tested at a temperature of $(25 \pm 10)^\circ\text{C}$. The requirements given in 4.3 shall be fulfilled.

On the sealing area there shall be a consistently good contact between plug and end fitting when hand tightened.

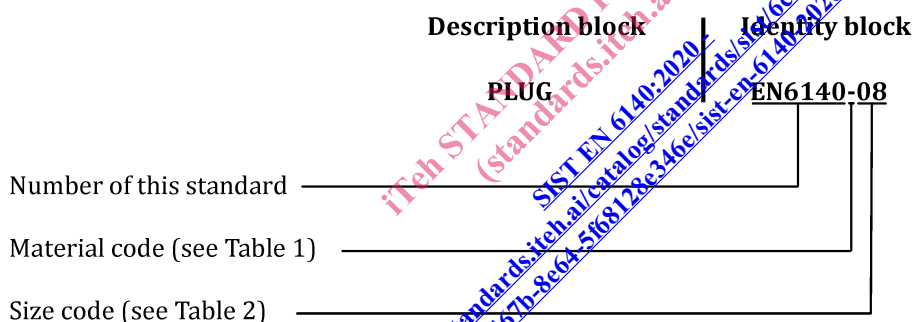
After removing the plugs, chips inside the equipment/tube/hose are not allowed.

5.2 First article inspection

For first article inspection the test assembly shall withstand a pressure equal to the proof pressure (see 4.4) without leakage, evidence of permanent deformation or other malfunction, for a period of 3 min after pressure stabilisation. Six specimens shall be tested at a temperature of $(25 \pm 10)^\circ\text{C}$.

6 Designation

This type of standard shall be designated according to the philosophy of the following example:



7 Marking

The plugs shall be legibly and permanently marked according to EN 2424, style A and with the following:

- the complete standard part designation; and
- the name of the manufacturer; or
- trademark; or
- cage code.

8 Packaging

All parts shall be delivered individually in suitable bags, which are marked according to EN 2424, style G. The standard parts shall be protected against humidity, embitterment, impact, contamination and other negative influences by suitable approved materials, so that no damage or deterioration occurs under normal transport and storage conditions. The packaging materials used