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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

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- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

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



DRAFT International Standard

ISO/DIS 8913

Aerospace — Lightweight polytetrafluoroethylene (PTFE) metallic reinforced hose assemblies, classification 21 000 kPa (3 000 psi) and 204 °C (400 °F) — Procurement specification

ICS: 83.140.40; 49.080

ISO/TC 20/SC 10

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2025-08-29

This document is circulated as received from the committee secretariat.

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Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Classification	2
5 Requirements	2
5.1 Qualification	2
5.1.1 General	2
5.2 Materials	2
5.2.1 General	2
5.2.2 Metals	2
5.3 Construction	2
5.3.1 General	2
5.3.2 Inner tube	2
5.3.3 Reinforcement	2
5.3.4 Fittings	3
5.4 Inner tube	3
5.4.1 Density and relative density	3
5.4.2 Tensile strength	3
5.4.3 Elongation	3
5.4.4 Tube roll	4
5.4.5 Tube proof pressure	4
5.4.6 Electrical conductivity	4
5.5 Hose	4
5.5.1 Dimensional requirements	4
5.5.2 Physical requirements	5
5.5.3 Bore check	6
5.5.4 Assembly length	6
5.6 Screw threads	6
5.7 Part numbering of interchangeable parts	6
5.8 Hose assembly – Identification of products	7
5.9 Workmanship	7
5.9.1 General	7
5.9.2 Dimensions and tolerances	7
5.9.3 Cleaning	7
5.10 Hose assembly — Test and performance requirements	7
5.10.1 Proof pressure	7
5.10.2 Elongation and contraction	7
5.10.3 Volumetric expansion	8
5.10.4 Leakage	8
5.10.5 Thermal shock and burst at high temperature	8
5.10.6 Impulse	9
5.10.7 Flexure	10
5.10.8 Stress degradation	10
5.10.9 Pneumatic surge	10
5.10.10 Pneumatic effusion	10
5.10.11 Repeated installation	11
5.10.12 Burst pressure at room temperature	11
5.10.13 Electrical conductivity	11
5.10.14 Fire resistance	11
6 Quality assurance	12
6.1 Responsibility for inspection	12

6.2	Classification of inspections.....	12
6.3	Qualification inspections.....	12
6.3.1	Qualification test samples.....	12
6.3.2	Test report, test samples and data for the purchaser.....	13
6.3.3	Qualification testing.....	13
6.3.4	Criteria for requalification.....	13
6.4	Quality conformity inspections.....	14
6.4.1	General.....	14
6.4.2	Individual tests.....	14
6.4.3	Sampling tests.....	14
6.4.4	Periodic control tests.....	14
6.4.5	Rejection and re-test.....	15
6.4.6	Changes in inspection procedures.....	15
6.4.7	Destructive test sample.....	15
6.5	Test conditions.....	15
6.5.1	Assembly, ends and hose.....	15
6.5.2	End connections.....	16
6.5.3	Test fluids.....	16
6.5.4	Temperature measurements.....	16
6.5.5	Pressure measurements.....	16
6.5.6	Preparation of test specimens.....	16
6.6	Inspection methods.....	16
6.6.1	Examination of product.....	16
7	Preparation for delivery.....	17
7.1	Storage and packaging.....	17
7.2	Marking.....	17
8	Ordering data.....	17
	Annex A (informative) Equivalent materials.....	18
	Bibliography.....	21

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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 10, *Aerospace fluid systems and components*.

This fourth edition cancels and replaces the third edition (ISO 8913:2006), which has been technically revised.

The main changes are as follows:

- [Clause 3](#) has been updated to remove SAE and PRI documents;
- [5.3.2](#) has been revised to remove the 2 % additives maximum;
- [5.4.1](#) has been revised to add method B for relative density;
- 5.8.1 and 5.8.2 has been deleted;
- [Table B.1](#) has been revised to Equivalent Materials in place of the equivalent procedures and specifications.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The procurement requirements are intended to ensure that hose assemblies which are procured in accordance with this document are of the same quality as the hose assemblies used during the original qualification testing. Conformity with these test and procurement requirements is necessary for hose assemblies that are used in fluid systems where a malfunction can affect the safety of flight.

The use of these hose assemblies in high-pressure pneumatic storage systems is not recommended. In addition, installations in which the limits specified in this document are exceeded, or in which the application is not covered specifically by this document, for example for oxygen, are subject to the approval of the purchaser.

Aerospace — Lightweight polytetrafluoroethylene (PTFE) metallic reinforced hose assemblies, classification 21 000 kPa (3 000 psi) and 204 °C (400 °F) — Procurement specification

1 Scope

This document specifies requirements for lightweight polytetrafluoroethylene (PTFE) hose assemblies for use in aircraft hydraulic systems at temperatures between – 55 °C and 204 °C (– 65 °F and 400 °F), and at a nominal pressure up to 3 000 psi (20 684 kPa) or 21 000 kPa (3 046 psi).

The hose assemblies are also suitable for use within the same temperature and pressure limitations in aircraft pneumatic systems where some gaseous diffusion through the wall on the PTFE liner can be tolerated.

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.

ISO 2685, *Aircraft — Environmental test procedure for airborne equipment — Resistance to fire in designated fire zones*

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

ISO 5855-3, *Aerospace — MJ threads — Part 3: Limit dimensions for fittings for fluid systems*

ISO 6772, *Aerospace — Fluid systems — Impulse testing of hydraulic hose, tubing and fitting assemblies*

ISO 7258:1984, *Polytetrafluoroethylene (PTFE) tubing for aerospace applications — Methods for the determination of the density and relative density*

ISO 8829-2:2006, *Aerospace — Test methods for polytetrafluoroethylene (PTFE) inner-tube hose assemblies — Part 2: Non-metallic braid*

ASTM A262, *Standard practices for detecting susceptibility to intergranular attack in austenitic stainless steels*

3 Terms and definitions

No terms and definitions are listed in this document.

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

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

4 Classification

Hose assemblies furnished under this document shall be classified as follows:

- type A — 20 684 kPa (3 000 psi) pressure system;
- type B — 21 000 kPa (3 046 psi) pressure system.

When no classification is specified by reference to this document, type B shall apply.

5 Requirements

5.1 Qualification

5.1.1 General

Hose assemblies supplied in accordance with this document shall be representative of products which have been subjected to and which have successfully passed the requirements and tests specified in this document.

5.2 Materials

5.2.1 General

The hose assembly materials shall be as described in this document. All materials not specifically described in this document shall be of the highest quality and suitable for the purpose intended.

5.2.2 Metals

Metals used in the hose and fittings shall be corrosion-resistant steel, nickel alloy or titanium, and shall conform to the applicable specifications given in [Table 1](#) (or equivalent specifications; see [Annex A](#)).

5.3 Construction

5.3.1 General

The hose assembly shall consist of the following, to meet the construction requirements in this subclause and the performance requirements in [5.10](#) and as required for its intended use:

- a seamless PTFE inner tube (see [5.3.2](#));
- corrosion-resistant steel wire reinforcement (see [5.3.3](#)); and
- corrosion-resistant steel, nickel alloy and/or titanium end fittings (see [5.3.4](#)).

5.3.2 Inner tube

The inner tube shall be of a seamless construction of PTFE resin of uniform gauge; it shall have a smooth bore and shall be free from pitting and projections on the inner surface. Additives to make the tube conductive may be included in the compound from which the tube is extruded.

5.3.3 Reinforcement

The reinforcement shall consist of corrosion-resistant steel wire conforming to the applicable specifications given in [5.2.2](#). The wires shall be arranged over the inner tube so as to provide sufficient strength to ensure conformity with the requirements in [5.10](#).

Broken or missing reinforcing wires shall be cause for rejection; crossed-over reinforcing wires shall not be cause for rejection of the flexible hose assembly.