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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 47583-2026

Aerospace - Clamps for fluid systems - Test methods

航空航天 流体系统用卡箍 试验方法

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is modified to adopt ISO 9679:2006 "Test methods for clamps used in aerospace fluid systems".

This document includes a new chapter on "Terms and Definitions".

The technical differences between this document and ISO 9679:2006, and the reasons therefor, are as follows.

---The scope of application has been expanded (see Chapter 1) to better suit my country's national conditions;

---Replace ISO 2951 (see 5.4) with the normatively referenced GB/T 40720 to conform to domestic usage practices;

---Replace ISO 4892-3 (see 5.5) with the normatively referenced GB/T 16422.3 to conform to domestic usage practices;

---Change "Ti-3Al2.5V" to "TA18" (see 5.6.2, 6.1.2), where TA18 is the corresponding domestic grade for this material;

---The clamp specification has been changed from "19mm (0.75in)" to "20mm" (see 6.1.2, 6.3.2) to meet domestic usage requirements;

---Change "Stainless Steel MJ5 (Thread Diameter 0.19in) Bolt" to "Stainless Steel MJ5

Bolt" (see 6.2.2) to comply with domestic usage regulations.

Use it as a habit;

---Change the distance label $(e1-d1)/4$ to $e1-d1/4$, and provide an explanation for $e1$ and $d1$ (see Figure 3), because ISO 9679.

The distance annotation in 2006 is incorrect and lacks explanation.

The following editorial changes have been made to this document.

---The way the scope is expressed has been changed (see Chapter 1), and the translation has been optimized to conform to domestic expression habits;

---The term "principle" in ISO 9679:2006 will be translated as "experimental purpose" to conform to domestic expression habits.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed and is under the jurisdiction of the National Aircraft Standardization Technical Committee (SAC/TC435).

1 Scope

This document describes the material testing methods and component testing methods for clamps used in aerospace fluid systems.

This document applies to products such as clamps for aerospace fluid systems.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 40720 Determination of insulation resistance of vulcanized rubber (GB/T 40720-2021, ISO 2951:2019, IDT) GB/T 16422.3 Plastics - Laboratory Light Source Exposure Test Methods - Part 3: Fluorescent Ultraviolet Lamps (GB/T 16422.3-2022) ISO 4892-3:2016, IDT ISO 1431-1:2004 Resistance to ozone cracking in vulcanized or thermoplastic rubbers - Part 1: Static and dynamic strain tests (Rubber,

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4 General Requirements

4.1

The tests in this document are for the qualification of the relevant products only and are not applicable to the qualification of product processes, installation, or applications. All qualification test pieces...

It should comply with the relevant product standards or agreement requirements.

4.2

Unless otherwise specified, all tests shall be conducted at room temperature (25 ± 10)°C.

5.1 General Requirements

The clamp material should comply with the relevant product standards. Material testing can be conducted using product standards, procurement specifications, or contracts.

5.2 Ozone resistance

For clamps made of non-metallic materials, including vulcanized rubber or thermoplastic materials, ozone volume fraction should be controlled according to Procedure B of ISO 1431-1:2004.

No cracks should appear after a continuous 6-hour test at 6×10^{-6} , temperature (40 ± 2) °C, and 80% strain.

5.3.1 General Requirements

Non-metallic materials were tested for flammability using a vertical burning test method. The flame source was a Bunsen burner with an inner diameter of 10 mm (0.40 in).