

ICS 49.140
CCS V 70



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

GB/T 47261-2026

**Test methods for the static strength and static stiffness of
launch vehicle structures**

运载火箭结构静强度与静刚度试验方法

Issued on: March 31, 2026

Implemented on: October 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

1.Scope	1
2 Normative References	1
3.Terms and Definitions	1
4 Symbols	1
5.Test Item	2
6.Test conditions	4
6.1 Test Technical Status.....	4
6.2 Test Site	4
6.3 Test Environment.....	5
6.4 Test Equipment	5
6.5 Personnel	5
6.6 Test Quality and Safety.....	5
7.Internal pressure test	5
7.1 Test System	5
7.2 Test Procedure	8
7.3 Test Report	8
8.2 Test Procedure	9
8.3 Test Report	9
9 Concentrated Force Test.....	9
9.1 Test System	9
9.2 Test Procedure	10
9.3 Test Report	10
10.1 Test System	11
10.2 Test Procedure	11
10.3 Test Report	11
11.1 Test System	11
11.2 Test Procedure	12
11.3 Test Report	12
12 Shear test	12
12.1 Test System	12
12.2 Test Procedure	12
12.3 Test Report	13

13 Torque Test.....	13
13.2 Test Procedure.....	13
13.3 Test Report.....	13
14 Surface force distribution test.....	13
14.1 Test System.....	13
14.2 Test Procedure.....	14
14.3 Test Report.....	14
15 Combined Load Test.....	14
15.1 Test System.....	14
15.2 Test Procedure.....	15
15.3 Test Report.....	15
16 Test Procedure.....	15
16.1 Test Procedure.....	15
16.2 Pre-experiment preparation.....	16
16.3 Experiment Implementation.....	17
16.4 Post-test treatment.....	18
17 Interruption Handling.....	19
17.1 Test Interruption.....	19
17.2 Interrupt Handling.....	19
32 Appendix C (Informative) Method for Evaluating Uncertainty in Static Strength and Static Stiffness Tests of Launch Vehicle Structures.....	33

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. 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 Technical Committee on Standardization of Aerospace Technology and Its Applications (SAC/TC425). This document was drafted by: Beijing Institute of Strength and Environmental Research, Beijing Institute of Aerospace Systems Engineering, Shanghai Institute of Aerospace Systems Engineering, and Beijing... Satellite Environmental Engineering Research Institute, Tianjin Aerospace Ruilai Technology Co., Ltd., and China Aerospace Standardization Institute. The main drafters of this document are: Liu Yantao, Li Yue, Wang Xiaohui, Jia Liang, Feng Yingchuan, Sun Jinyun, Zhang Lianqing, Sheng Song, Hao Peiyan, and Mao Lina. Guo Wenjing, Ba Xiaolei,

Li Xiaolin, Zhou Jiangfan, Tong Jun, Zheng Bin, Hu Zhenggen, Han Han, Sun Wei, Liu Wei, Li Jie, Xu Dongyan. Test methods for static strength and static stiffness of launch vehicle structures

1 Scope

GB/T 47261-2026 is the Chinese national standard covering loading a rocket structure on the ground until it either proves itself or breaks - the load cases from flight, the test rig and its reaction structure, the instrumentation, the load steps and the criteria for a successful test. First edition, 20,000 words, in force since 1 October 2026. It was issued on 31 March 2026 and takes effect on 1 October 2026, as a first edition. The document is under the responsibility of the Standardization Administration of China. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document describes the test methods for the static strength and static stiffness of launch vehicle structures. This document applies to static strength and static stiffness tests of launch vehicle structures under ambient temperature conditions.

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 10623 Terminology for Testing Mechanical Properties of Metallic Materials

GB/T 13992 Metal-bonded resistance strain gauges

GB/T 27418 Evaluation and Expression of Measurement Uncertainty

GB/T 32455 Aerospace Terminology - Transportation Systems

GB/T 42863 General Test Methods for Spacecraft

3 Terms and Definitions

The terms and definitions defined in GB/T 10623, GB/T 13992, GB/T 27418, GB/T 32455 and GB/T 42863 apply to this standard. document.

4 Symbols

The following symbols apply to this document. d0

- Displacement sensor reading error; E
- Elastic modulus of the material, measured in megapascals (MPa); ee
- Strain gauge measurement value; F
- Concentrated force, tensile or compressive load, in Newtons (N); F0
- Force sensor range; Fe
- Force sensor measurement value; f
- Safety factor; G
- Material shear modulus, in megapascals (MPa); Jc
- Measurement system accuracy; jl
- Force sensor accuracy; Jy
- Pressure sensor accuracy; jz
- Strain gauge sensitivity coefficient accuracy; M
- Bending moment load, in Newton-meters (N·m); P