



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

GB/T 41028-2021

**Requirements of aerospace fluid systems impulse testing of
hydraulic hose, tubing and fitting assemblies**

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foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules of Standardization Documents"

drafted:

This document is equivalent to ISO 6772:2012 "Impulse testing of hydraulic hoses, pipes and fitting assemblies for aerospace fluid systems":

The following minimal editorial changes have been made to this document:

--- In order to facilitate coordination with existing standardization documents, the standard name was changed to "Hydraulic hoses, pipes and fittings for aerospace fluid systems"

Pulse Test Requirements for Components":

---In the formula (1), the "rate of increase" is changed from the literal expression to the symbol "eta":

Introduction

In a hydraulic system, the pressure of hydraulic oil is transmitted through pipes, hoses and joint assemblies: In order to prove that these transmission elements are capable of preventing

In order to prevent fatigue failure, it is necessary to carry out an appropriate impulse pressure test:

This document provides general requirements for impulse pressure testing of hydraulic system components:

Aerospace fluid systems hydraulic hoses, pipes and

Impulse test requirements for joint assemblies

1 Scope

This document specifies requirements and procedures for impulse testing of hose, pipe, and fitting assemblies used in aerospace hydraulic systems:

This document applies to impulse testing of hose, pipe and fitting assemblies for aerospace hydraulic systems: This document may also be used for other applicable

Component testing of aerospace fluid systems:

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, dated citations

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

ISO 6771 Aerospace Fluid Systems and Components Pressure and Temperature Classification (Aerospace-Fluidsystemsandcom-
ponents-Pressureandtemperatureclassifications)

ISO 8575 Aerospace-Fluidsystems-Hydraulicsystem
tubing)

3 Terms and Definitions

The following terms and definitions apply to this document:

3:1

rateofrise

Defines the slope of the rising part (straight line) of the pulse pressure in the pressure/time characteristic curve:

Note: The rate of increase can also be defined as the rate of pressure change between 10% and 90% of the total increase in pulse pressure from back pressure to peak pressure:

3:2

peakpressure

The maximum working pressure in a short period of time:

[Source: GB/T 30206:1-2013, 2:25]

4 Test conditions

4.1 Pulse trace

When viewed on an oscilloscope, the pulse traces represent an approximate pressure/time cycle: These pressure/time curves should be as shown in Figure 1

within the shaded area: The dynamic pulse trace produced by the pulse test equipment should be consistent with the pulse trace shown in Figure 1: