

CCS J 04



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

GB/T 12604.7-2021

Non-destructive testing - Terminology - Leak testing

Issued on: May 21, 2021

Implemented on: December 1, 2021

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Terms related to "gas"	2
5 Terms related to "detection technology"	4
6 Terms related to "testing procedures"	7
Appendix A (informative) Terms and definitions in GB/T 12604.7-2014 deleted from this document	9
Appendix B (informative) Compared with GB/T 12604.7-2014, new terms and definitions are added to this document	15
Appendix C (informative) Terms and definitions revised in this document compared with GB/T 12604.7-2014	17
Appendix D (Informative) Leak Detection Other Terms	21
Appendix E (informative) Structural changes of this document compared with ISO 20484.2017	25
Appendix F (informative) Technical differences and reasons between this document and ISO 20484.2017	26
Reference	27
Index	28
Table A.1 Terms and definitions in GB/T 12604.7-2014 deleted from this document.....	9
Table B.1 Compared with GB/T 12604.7-2014, the new terms and definitions of this document	15
Table C.1 Terms and definitions revised in this document compared with GB/T 12604.7-2014	17
Table D.1 Other terms for leak detection.....	21
Table E.1 The comparison between this document and the chapter number in ISO 20484.2017	25
Table F.1 Technical differences between this document and ISO 20484.2017 and reasons	26

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" Drafting.

This document is part 7 of GB/T 12604 "Terms of Non-destructive Testing". GB/T 12604 has released the following parts.

- 12604.1 Non-destructive testing term Ultrasonic testing
- 12604.2 Non-destructive testing terminology radiographic testing
- 12604.3 Non-destructive testing terminology penetration testing
- 12604.4 Non-destructive testing terminology Acoustic emission testing
- 12604.5 Non-destructive testing terminology magnetic particle testing
- 12604.6 Non-destructive testing terms Eddy current testing
- 12604.7 Non-destructive testing terminology leak detection
- 12604.8 Non-destructive testing terminology neutron testing
- 12604.9 Non-destructive testing terminology infrared testing
- 12604.10 Non-destructive testing terminology magnetic memory testing
- 12604.11 Non-destructive testing terminology X-ray digital imaging testing

This document replaces GB/T 12604.7-2014 "Non-destructive testing terminology leak detection", compared with GB/T 12604.7-2014, except

In addition to structural adjustments and editorial changes, the main technical changes are as follows.

a) According to ISO 20484.2017, the overall structure of the standard is adjusted, which is divided into terms and definitions, terms related to "gas", and

There are four major categories of terms related to "testing technology" and terms related to "testing procedures". Each category is subdivided into small categories.

Under the category are specific terms;

- b) Some terms and definitions have been deleted, see Appendix A for details;
- c) Some terms and definitions have been added, see Appendix B for details;
- d) Some terms and definitions have been changed, please refer to Appendix C for details;
- e) Added other terms for leak detection, see Appendix D for details.

This document uses the redrafting method to modify and adopt ISO 20484.2017 "Non-destructive Testing Leak Detection Vocabulary".

Compared with ISO 20484.2017, the structure of this document has been adjusted. Appendix E lists the chapters of this document and ISO 20484.2017.

Article number comparison list.

Compared with ISO 20484.2017, this document has technical differences.

The vertical single line (|) of the setting is marked, and the corresponding technical differences and reasons are given in Appendix F.

This document has also made the following editorial changes.

- a) Modified the standard name to be consistent with the existing series of standards;
- b) Deleted the content related to the ISO 20484.2017 Chapter 3 website;
- c) Appendix A has been added, giving the terms and definitions deleted compared with GB/T 12604.7-2014;
- d) Appendix B has been added, giving new terms and definitions compared with GB/T 12604.7-2014;
- e) Appendix C has been added, giving terms and definitions revised compared with GB/T 12604.7-2014;
- f) Appendix D has been added, giving other terms for leak detection;
- j) Appendix E has been added, giving the structural differences with ISO 20484.2017;
- h) Appendix F has been added, giving the technical differences with ISO 20484.2017 and the reasons;
- i) Added references;
- j) The index catalog has been added for ease of use.

Introduction

Non-destructive testing technology is an indispensable tool for human industrialization and social development. It is also an important tool for product quality control and ensuring the safety of equipment and facilities.

The main means of full operation, it also provides feedback on the production process. Non-destructive testing uses the properties of heat, force, sound, light, electricity, and magnetism of materials,

Detect, locate and measure defects or abnormalities in materials and parts in a way that does not impair the expected performance and reliability, and evaluate their performance,

Organization and integrity. The application of non-destructive testing covers machinery manufacturing, chemical industry, medicine and medical treatment, energy, transportation, metallurgy, construction, water conservancy, ocean engineering

Fields such as engineering, weapons, aviation, aerospace, nuclear industry, sanitary food, smuggling and anti-terrorism, and public security.

There are many methods and techniques of non-destructive testing, and it has a wide range of applications. The general terminology that establishes the basis of various methods and technologies of non-destructive testing is

The primary task of various non-destructive testing standardization organizations at home and abroad to develop non-destructive testing standardization activities. GB/T 12604 "Non-destructive testing technique

"Language" is the basic and universal standard that guides my country's non-destructive testing standardization activities. GB/T 12604 "Terms of Non-destructive Testing" aims to establish

The term generally applicable to standardized documents of non-destructive testing consists of eleven parts.

- 12604.1 Non-destructive testing term Ultrasonic testing
- 12604.2 Non-destructive testing terminology radiographic testing
- 12604.3 Non-destructive testing terminology penetration testing
- 12604.4 Non-destructive testing terminology Acoustic emission testing
- 12604.5 Non-destructive testing terminology magnetic particle testing
- 12604.6 Non-destructive testing terms Eddy current testing
- 12604.7 Non-destructive testing terminology leak detection
- 12604.8 Non-destructive testing terminology neutron testing
- 12604.9 Non-destructive testing terminology infrared testing
- 12604.10 Non-destructive testing terminology magnetic memory testing
- 12604.11 Non-destructive testing terminology X-ray digital imaging testing

This document is the seventh part of GB/T 12604, and it carries out leak detection terminology from the aspects of gas, detection technology and detection procedures.

definition. This revision of GB/T 12604.7 focuses on the convergence with the international standard of leak detection terminology, and increases the coverage.

The file structure has been adjusted so that there is a basis for formulating leak detection methods and product documentation, so as to give full play to the basic general support of the term file.

Support functions to better promote non-destructive testing trade, exchanges and technical cooperation.

Non-destructive testing terminology leak detection