AS 2452.1—2004
Reconfirmed 2017

AS 2452.1—2004

Australian Standard™

Non-destructive testing—Determination of thickness

Part 1: Determination of wall thickness of pipe by the use of radiography

STANDARDS AUSTRALIA

This Australian Standard was prepared by Committee MT-007, Non-Destructive Testing of Metals and Materials. It was approved on behalf of the Council of Standards Australia on 15 October 2004.
This Standard was published on 1 November 2004.

The following are represented on Committee MT-007:

ANSTO
Australian Aerospace Non-Destructive Testing Committee
Australian Industry Group
Australian Institute for Non-Destructive Testing
Australian Pipeline Industry Association
Australian Railway Association
Bureau of Steel Manufacturers of Australia
Institution of Engineers Australia
National Association of Testing Authorities Australia
TestSafe Australia
Victoria Workcover Authority
Welding Technology Institute of Australia

This Standard was issued in draft form for comment as DR 03553.

STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 2452.1—2004
Non-destructive testing—Determination of thickness
Part 1: Determination of wall thickness of pipe by the use of radiography

RECONFIRMATION NOTICE

Technical Committee MT-007 has reviewed the content of this publication and, in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 2 March 2017.

The following are represented on Technical Committee MT-007:

Australasian Thermographers Association
Australian Aerospace Non-Destructive Testing Committee
Australian Institute for Non-Destructive Testing
Australian Nuclear Science & Technology Organisation
AUSTROADS
Bureau of Steel Manufacturers of Australia
Engineers Australia
Institute of Electrical Inspectors
National Association of Testing Authorities Australia
New Zealand Non-Destructive Testing Association
TestSafe Australia
Welding Technology Institute of Australia
WorkSafe Victoria

NOTES

Australian Standard™

Non-destructive testing—Determination of thickness

Part 1: Determination of wall thickness of pipe by the use of radiography

Originally as AS 2452.1—1982.
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee MT-007, Non-Destructive Testing of Metals and Materials, at the request of industry. This Standard supersedes AS 2452.1—1982, *Non-destructive testing—Determination of thickness,* Part 1: *Determination of wall thickness of pipe by the use of radiography.*

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee MT-007. After consultation with shareholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to specify methods for film radiography to determine wall thickness of pipes and small fabricated vessels.

The objective of this revision is to expand the technology for the equipment and accessories used for radiography in determining wall thickness.

The methods in this Standard provide suitable bases for the testing of round pipe or other small pressure vessels, including gas cylinders. The methods rely on the use of a source of radiation, X-rays or gamma-rays, and require testing personnel to be experienced in the handling and use of radiation equipment and materials.

This Standard is Part 1 of a series of Standards covering the radiography of ferrous castings.

The series comprises the following parts:

AS	
2452	Non-destructive testing—Determination of thickness
2452.1	Part 1: Determination of the wall thickness of pipe by the use of radiography
2452.3	Part 3: Use of ultrasonic testing

The term ‘normative’ has been used in this Standard to define the application of the appendix to which it applies. A ‘normative’ appendix is an integral part of a Standard.

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Australian Standard

Non-destructive testing—Determination of thickness

Part 1: Determination of wall thickness of pipe by the use of radiography

1 SCOPE

This Standard specifies the methods for the determination of the wall thickness of pipes and small fabricated vessels using X-ray or gamma-ray radiography.

NOTES:

1 Under a given set of radiographic conditions, the accuracy of the methods specified herein is reduced with decreasing wall thickness and with increasing pipe or vessel diameter.

2 The methods specified herein are more accurate when a pipe is empty.

2 REFERENCED DOCUMENTS

The following documents are referred to in this standard:

AS
1929 Non-destructive testing—Glossary of terms

2243 Safety in laboratories
2243.4 Part 4: Ionizing radiations

3998 Non-destructive testing—Qualification and certification of personnel

Code of Practice for the Control and Safe Handling of Sealed Radioactive Sources Used in Industrial Radiography*

NH and MRC Radiation Health Series No. 31, Code of Practice for the safe use of Industrial Radiography Equipment

3 SAFETY PRECAUTIONS

Exposure of any part of the human body to ionizing radiation may be injurious. It is therefore essential that when X-ray equipment or radioactive sources are being used adequate precautions be taken to protect testing personnel and any other persons in the vicinity.

NOTE: The use of radioactive substances and irradiating apparatus is controlled by various statutory regulations. Reference should also be made AS 2243.4, the 'Code of Practice for the Control and Safe Handling of Sealed Radioactive Sources used in Industrial Radiography' and NH and MRC Radiation Health Series No.31 'Code of Practice for the safe use of Industrial Radiography Equipment'.

4 DEFINITIONS

For the purposes of this Standard, the terms and definitions given in AS 1929 apply.

* Issued by the National Health and Medical Research Council, Canberra.

