

Australian Standard™

AS 2582.9

Complete, filled transport packages— Methods of test

Method 9: Leakage test

PREFACE

This Standard was prepared by Standards Australia Committee PK-012, Physical Testing of Packages and Containers, as one of a series of methods for the testing of packages and packagings to determine their performance in a distribution system. This Standard is a revision of AS 2582.9—1985, *Complete, filled transport packages—Methods of test, Part 9: Leakage test*.

Further performance parameters, e.g. time and pressure, are specified in other test methods and Standards which make reference to this Standard.

METHOD

1 SCOPE

This Standard sets out a method of testing packages and complete, filled transport packages for leakage.

2 APPLICATION

This test is intended to be used for type testing or for quality control purposes, performed either as a single test or as part of a sequence of tests designed to detect leakage.

3 REFERENCED DOCUMENTS

The following Australian Standards are referenced in this Standard:

AS

1349 Bourdon tube pressure and vacuum gauges

2400 Packaging

2400.1 Part 1: Glossary of packaging terms

2582 Complete, filled transport packages—Methods of test

2582.2 Part 2: Conditioning for testing

4 DEFINITIONS

For the purpose of this Standard, the definitions given in AS 2400.1 and those below apply:

4.1 Package

The complete product of the packing operation, consisting of the packaging and its contents prepared for transport.

4.2 Packaging

Any receptacle or component used to contain or protect the package's contents.

5 PRINCIPLE

The test specimen is subjected to a predetermined pressure of a test gas or test liquid for a predetermined length of time during which leakage may be detected, e.g. by—

- (a) a decrease in the predetermined pressure;
- (b) bubbles in a water bath, or from an indicator (e.g. soap solution, heavy oil) applied to the seams of the packaging or other places where leakage might occur; or
- (c) leakage of the test liquid.

6 APPARATUS

6.1 General

A system capable of maintaining the predetermined conditions, consisting of the following:

- (a) A connection through a closure or the body of the packaging, in such a way that the connection is unlikely to influence the result.
- (b) An industrial pressure gauge complying with AS 1349.
- (c) A means of detecting leakage, e.g. a water bath in which the test specimen can be completely immersed.

6.2 Testing with gas

A gas supply, capable of being regulated and maintained at a predetermined pressure and accuracy.

WARNING: IT IS DANGEROUS TO APPLY COMPRESSED GAS INSIDE A PACKAGING. TESTING WITH GAS FROM A HIGH-PRESSURE SOURCE SHOULD BE AVOIDED. TESTING WITH GAS SHALL ONLY BE PERFORMED AT TESTING STATIONS FITTED WITH APPROPRIATE SAFETY EQUIPMENT, AND BY PERSONNEL TRAINED IN THE CONDUCT OF THE TEST.

NOTE: Consideration needs to be given to the following:

- (a) The large amount of energy present when air or any other gas is compressed.
- (b) The risk of explosion from a gas/air mixture.
- (c) The risk of explosion caused by lubricating oil from the compressors contaminating the compressed gas (especially oxygen or nitrous oxide).

6.3 Testing with liquid

A hydraulic system, capable of producing and maintaining the required pressure and accuracy.

7 CONDITIONING

Where required, the package shall be conditioned in accordance with AS 2582.2.