

FIRE TEST METHODS AS 1530 vs EN 1366

In New Zealand and Australia fire protection systems are tested under Australian Standard 1530, Part 4 with the latest version being 2014. This is referred to as **AS 1530.4-2014**

In Europe fire protection systems are tested under European Standard 1366 with the relevant sections being Section 3 for penetrations and Section 4 for linear joints and gaps. The latest version for Section 3 is 2009, while the latest version for Section 4 is 2006 (with a minor addendum called +A1 issued in 2010). These tests are referred to as **EN 1366-3: 2009** and **EN 1366-4: 2006**

The test methods and criteria of AS 1530 and EN 1366 are virtually identical and several European manufacturers have commissioned comparison reports in order to have their products accepted in the Australasian market on the basis of their existing European tests.

The results have been unanimous in finding that systems which are successfully tested under EN 1366 would also be successful if tested under AS 1530. The reverse, however, is not claimed. Systems tested successfully under AS 1530 would not necessarily be successful under EN 1366 because the EN test is slightly more onerous than the AS test in terms of the heating regime and furnace pressure requirements.

For products marketed in NZ by Firestop Centre the relevant reports are:

- a) International Fire Consultants Ltd – Engineering Report PAR/15668/01 – commissioned by Polyseam Ltd (manufacturer of the Protecta brand) and issued May 2016
- b) Efectis Nederland BV – Engineering Report R0385 – commissioned by Beele Engineering BY (manufacturer of the CSD brand) and issued April 2010

The full reports are available from Firestop Centre at info@firestopcentre.co.nz

All systems marketed by Firestop Centre that are covered by the above reports are classified as complying with AS 1530.4-2005 by virtue of existing relevant EN1366 test reports and the relevant report from IFC or Efectis. Conformity Declarations regarding AS 1530.4 are issued on this basis.

TESTS vs ASSESSMENTS

There is some confusion in the marketplace regarding assessments. This explanation may help to clarify that.

All fire protection systems start by having a particular configuration tested. The result of that test is a document released by the testing authority giving the summarised results in a form useful for the market.

For tests under AS 1530 that document is referred to as a Fire Resistance Test – usually in the form FR####. This is the document that sets out what was actually tested and specifies the configuration that was used. The results are expressed as Fire Resistance Levels (FRL, sometimes also known as FRR) in the form -/##/## where the first number is fire integrity and the second number is thermal insulation, both in minutes. E.g. -/120/60

For tests under EN 1366 the equivalent test document is a European Technical Assessment – usually in the form ETA YY/#### where the YY refers to the year of the test. The results are presented as two values; E, being fire integrity, and EI, being thermal insulation. The example above would show as E 120, EI 60. Where both values are the same, the European system just uses one number. i.e. -/180/180 is equivalent to EI 180.

However, frequently situations arise where systems are required to be used in configurations that vary in some way from the original basic test configuration. These are known as assessments because someone has to make an assessment of the system's suitability using information from an existing test. There are a variety of options open to use the original test data to allow for these variations and these are covered under Australian Standard 4072 (**AS 4072.1-2005**).

First, AS 1530.4-2005 itself allows a number of standard variations under Sect 10.11.

For example:

- a) Systems tested in plasterboard walls may be used in concrete walls of the same thickness.
- b) Systems tested with copper pipes may be used with ferrous pipes up to the same diameter.
- c) Systems tested with the penetrant perpendicular to the wall may be used for a non-perpendicular penetrant with similar exposure of the fire-stopping system.

These variations may be used without reference to the testing authority – no assessment is required.

Where the variation is beyond the scope of the standard variations a formal opinion is required from a registered testing authority and AS 4072.1 sets out the way such an assessment should be done.

Any such varied systems approved as a result of formal opinions under AS 4072.1 are usually referred to as, "Tested under AS 1530.4 and assessed according to AS 4072.1".

Systems being used in the form originally tested will normally be referred to as, "Tested under AS 1530.4"