Assessment Review FCO-1737 ‘Trimesh wall system incorporating a fire damper’

Assessment Review

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Report number: FCO-1737 Review Letter
Date: 17th November 2017
Client: L & A Fazzini Manufacturing Pty Ltd

Commercial-in-confidence
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1 Introduction

This review relates to the report FCO-1737 which provides an assessment of Trimesh wall system incorporating a fire damper.

2 Confirmation of Specification

The sponsor of referenced assessment report FCO-1737 is L & A Fazzini Manufacturing Pty Ltd and they have stated in writing that there have been no changes to the design and material specifications of the protection systems in CSIRO reports numbered FSH 0649 that are referred to in FCO-1737.

3 Formal Review

Since the issue of the referenced assessment the test standard AS 1530.4 has been revised and the current version is AS 1530.4-2014. With reference to NCC Volume 1 Specification A1.3 Table 1 Referenced Documents, the note under AS 1530.4 states the following; “Subject to the note to AS 4072.1, reports relating to tests carried out under earlier editions of AS 1530 Parts 1 to 4 remain valid. Reports relating to tests carried out after the date of an amendment to a Standard must relate to the amended Standard”.

As a result of this, our client has requested that we review this report against the requirements of AS 1530.4-2005.

Since the issue of assessment report FCO-1737 there have been no changes to the procedures and methodologies used for the original assessment and are similar to those currently in use.

The design and material specifications of the protection systems of the used for the original assessment has been re-examined and found to be satisfactory.

Therefore it is confirmed that the assessed performance in FCO-1737 is considered valid subject to the requirements in Section 4.

4 Term of Validity

This review remains valid until 30 November 2022. Should you wish us to re-examine this report with a view to the possible extension of its term of validity, would you please apply to us three to four months before the date of expiry. This Division reserves the right at any time to amend or withdraw this assessment in the light of new knowledge.
5 Limitations

The conclusions of this assessment report may be used to directly assess the fire resistance performance under such conditions, but it should be recognised that a single test method will not provide a full assessment of the fire hazard under all fire conditions.

Because of the nature of fire resistance testing, and the consequent difficulty in quantifying the uncertainty of measurement, it is not possible to provide a stated degree of accuracy. The inherent variability in test procedures, materials and methods of construction, and installation may lead to variations in performance between elements of similar construction.

This assessment report does not provide an endorsement by CSIRO of the actual products supplied to industry. The referenced assessment can therefore only relate only to the actual prototype test specimens, testing conditions and methodology described in the supporting data, and does not imply any performance abilities of constructions of subsequent manufacture.

This assessment is based on information and experience available at the time of preparation. The published procedures for the conduct of tests and the assessment of test results are the subject of constant review and improvement and it is recommended that this report be reviewed on or before, the stated expiry date.

The information contained in this assessment report shall not be used for the assessment of variations other than those stated in the conclusions above. The assessment is valid provided no modifications are made to the systems detailed in this report. All details of construction should be consistent with the requirements stated in the relevant test reports and all referenced documents.
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Dear Mr Fazzini,

FIRE PERFORMANCE OF TRIMESH SYSTEM
Opinion No FCO-1737
Your e-mail of 11 November 2010

INTRODUCTION

We have examined the information referenced by you on the likely performance of your Trimesh wall system incorporating a fire damper if tested to AS 1530.4-2005. The information included:

- Australian Standard 1530, Methods for fire tests on building materials, components and structures, Part 4-2005, Fire-resistance tests of elements of building construction;
- our fire-resistance test report numbered FSH 0649.

We have retained this information.

You have requested that we analyse the test data from your full-scale test in order to determine the likely performance of your wall system incorporating a damper assembly.

ANALYSIS

CSIRO Sponsored Investigation report numbered FSH 0649

On 22 December 1998 this Division conducted a full-scale fire test on a structure comprising vertical and horizontal panels of your Trimesh wall systems. The panels comprised various thicknesses of your Vermiduct and Alltex spray material, some in conjunction with polyurethane. One panel (Panel 3) comprising 35 mm of Alltex spray and approximately 25 mm of polyurethane incorporated 2400-mm wide x 900-mm high fire damper. The damper was installed using M10 threaded rods from the top of the wall and horizontal steel channels top and bottom of the actual damper body. At 42 minutes expansion of the damper, which was forced downward by the stiffness of the support rods, caused cracks in the portion of the wall below the damper. Throughout the test period this expansion resulted in significant distortion of the wall around the lower portion of the damper. Insulation failure was recorded at 94 minutes on a thermocouple on the wall in the region of the cracking caused by the expansion of the damper. In the region above the damper, which was not directly affected by the damper, the insulation failure was recorded at 138 minutes.

OPINION/CONCLUSION

Based on the information detailed above it is the opinion of this Division that the Trimesh R225 wall system with Alltex spray, as reported as Panel 3 in FSH 0649, would be capable of achieving fire-resistance levels of 240/240/120 if constructed as per the reference test but without the damper. It is also the opinion of this Division that the installation of an approved...
damper into this wall system would not detrimentally affect the integrity of the wall provided that clearances as specified in Appendix C of AS 1682.2-1990 are provide between the fire damper and the sides of the penetration.

TERM OF VALIDITY

This assessment report will lapse on 31 March 2016. Should you wish us to re-examine this assessment with a view to the possible extension of its term of validity, would you please apply to us three to four months before the date of expiry. This Division reserves the right at any time to amend or withdraw this report in the light of new knowledge.

Yours faithfully

Russell Collins
For Manager, Fire Testing and Assessment

1 March 2011