INFRASTRUCTURE TECHNOLOGIES
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Likely fire performance of framed wall systems

Assessment Report

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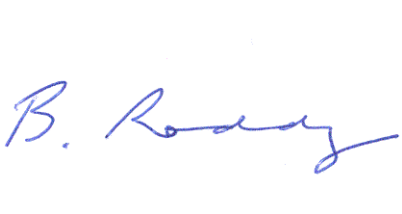		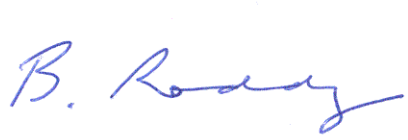
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Contents

Executive summary

This report provides the re-assessment of this Division on the likely performance of your framed-wall systems if it was tested in accordance with AS 1530.4-1997.

The proposal is to analyse the likely effect on the fire-resistance levels of over painting a plasterboard lined framed wall system sheeted with 13-mm thick standard grade plasterboard.

It is the opinion of this Division that a timber or steel stud frame wall system constructed as per the standard Boral Plasterboard specifications using 13-mm thick standard-grade plasterboard and coated on both faces with at least 800 microns of Ff88 intumescent paint would be capable of achieving fire-resistance levels of -/60/60 if tested in accordance with AS 1530.4-1997.

Likely fire performance of framed wall systems

1 Introduction

This report provides the re-assessment of this Division on the likely performance of your framed-wall systems if it was tested in accordance with AS 1530.4-1997.

2 Supporting Data

2.1 CSIRO Sponsored Investigation report numbered FSP 0653

On 18 March 1999 this Division conducted a full-scale fire-resistance test on a plasterboard lined steel-stud framed wall system. The plasterboard sheeting was 13-mm thick standard-grade plasterboard. The plasterboard was painted with a specified 560-630 microns of Ff88 intumescent paint. The test wall collapsed at 55 minutes with insulation failure at 53 minutes and integrity failure at 54 minutes.

2.2 Test data from CSIRO test numbered FS 3165/1822

On 11 May 1999 this Division conducted a pilot-scale test using specified paint thickness. This pilot-scale specimen passed the integrity criterion for 74 minutes and the insulation criterion for 69 minutes.

3 Proposal

The proposal is to analyse the likely effect on the fire-resistance levels of over painting a plasterboard lined framed wall system sheeted with 13-mm thick standard grade plasterboard.

4 Analysis

A post-test examination of the test conducted on 18 March 1999 revealed that the thickness of paint (approximately 400 microns) was less than specified. The subsequent pilot-scale test conducted on 11 May 1999 was conducted using the specified paint thickness. This pilot-scale specimen passed the integrity criterion for 74 minutes and the insulation criterion for 69 minutes. Due to the conservatism of pilot-scale testing this was not considered sufficient to be extrapolated to a full-scale specimen but provided evidence for extrapolation.

5 Conclusion

It is the opinion of this Division that a timber or steel stud frame wall system constructed as per the standard Boral Plasterboard specifications using 13-mm thick standard-grade plasterboard and coated on both faces with at least 800 microns of Ff88 intumescent paint would be capable of achieving fire-resistance levels of -/60/60 if tested in accordance with AS 1530.4-1997.

6 Term of validity

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References

The following informative documents are referred to in this Report:

AS 1530.4-1997	Methods for fire tests on building materials, components and structures Part 4: Fire-resistance tests of elements of building construction.
FSP 0653	CSIRO Sponsored Investigation test report for test conducted on 18 March 1999.
FS 3165/1822	CSIRO test conducted on 11 May 1999.

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