

Our ref: FCO-2425/4077

Machdev Pty Ltd
2/423 Bradman Street
ACACIA RIDGE QLD 4110

Attention: Wayne Borg

LOADBEARING WALL SYSTEM
Assessment Number FCO-2425
Your e-mail of 24 November

INTRODUCTION

We have examined the information referenced by you to determine the likely fire performance of your tested system in a loadbearing application. The information included

- our test report numbered FSV 1082 on our test numbered FS 3685/2695 for a full-scale fire-resistance test conducted on a timber-framed wall system tested on 27 August 2004;

We have retained this information

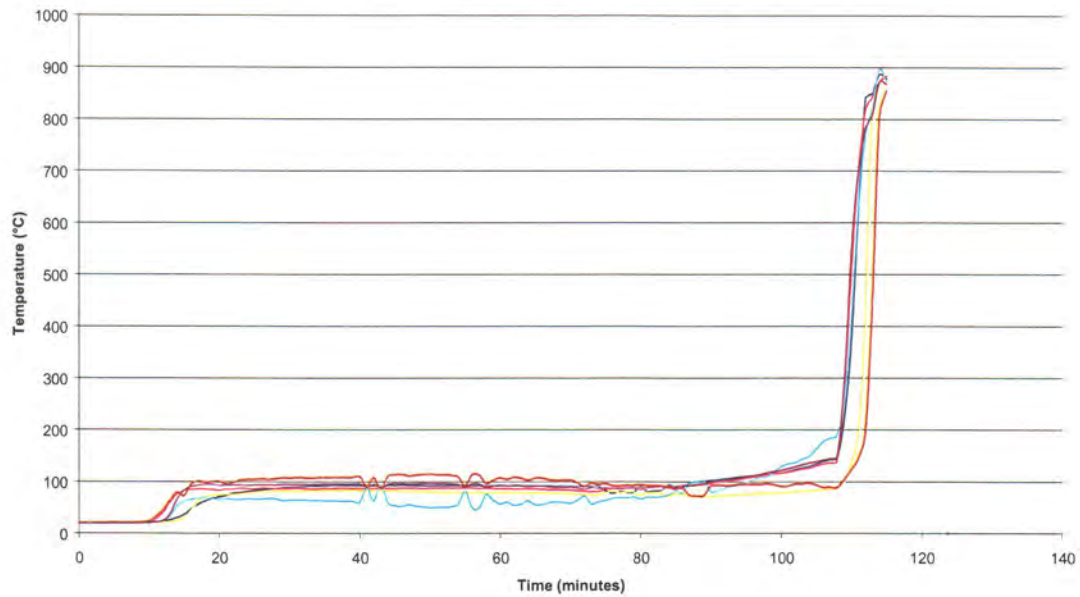
ANALYSIS

On 27 August 2004, this Division conducted a full-scale fire-resistance test on a wall system comprising a 90 x 35 m timber studs at approximately 495-mm centres. On the unexposed face the frame was lined with 10-mm thick standard grade plasterboard. On the fire exposed face Insulco 599 foil was fixed to the studs by means of 25 x 45 mm timber battens over which was sheeted 50-mm thick QT EcoSeries Wall Panels fixed to the battens with 75 x 3.75 mm Class 3 flat head nails that incorporated a QT Button disc as a washer under the head. The external face of the wall panel was finished off with a 5-8 mm reinforced polymer-modified cement render.

The system caused the cotton pad to ignite at 112 minutes and failed due to sustained flaming at 113 minutes. The average temperature on the unexposed face of the wall at the 115 minute termination time was 215°C. The temperature on the unexposed face of the QT EcoSeries Wall Panels was 97°C at 60 minutes and 441°C at 90 minutes. Figure 1, below, shows the temperature recorded on the timber studs during the duration of the test. As can be seen the temperature on the surface of the studs at 90 minutes was approximately 100°C.

Charring initiates between 250-300°C with the resultant loss of cross-sectional area and subsequent loss of structural capacity for the stud. At the temperatures recorded during the test, charring would not have commenced and full structural strength would be maintained.

Figure 1. Temperature recorded on the studs



OPINION/CONCLUSION

Based on the factors detailed above it is the opinion of the Division that the wall system as reported in FSV 1082 the full-scale fire-resistance test conducted on a timber-framed wall system tested on 27 August 2004 would be capable of achieving fire-resistance levels (FRL) of 90/90/90 for loadbearing walls, for load calculated from relevant design standard, if tested in accordance with AS 1530.4-2005.

TERM OF VALIDITY

This assessment report will lapse on 31 December 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,

Garry E. Collins
Manager, Fire Testing and Assessments.

9 December 2011