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Our Ref: FCO-2552

Ozwall Pty Ltd
4/1 King Avenue
FAIRLIGHT NSW 2094

Attention: Mr Geoff Wyatt

MODIFIED WALL SYSTEM
Assessment Number FCO-2552
Your letters of 15 November

INTRODUCTION

We have examined the information referenced by you with regard to the fire performance of your wall system comprising modified profile panels. The information included

- our sponsored investigation report numbered FSV 0474;
- report by Robert Bird Group detailing the axial load-bearing capacity of grout filled Ozwall panels;
- our assessment report FCO-1580 and
- drawing numbered OZ-SK 4, dated November 2006, by Ozwall Pty Ltd detailing the panel profile;

We have retained these documents.

You have requested that this Division carry out an analysis of the likely effects of 400 kN/m load on fire-resistance performance of 120 mm Ozwall wall system.

ANALYSIS

On 18 February 1997 this Division conducted a fire-resistance test numbered FSV 0474 to AS 1530.4 – 1990 on a loadbearing wall system comprising a standard panel 2630 mm high x 3000 mm wide x 100 mm thick. The panel had a skin thickness of 13 mm and a rib thickness of 20 mm at 300 mm centres. The voids of the panels were filled with 35 MPa concrete with 10 mm aggregate.

On each face, off set from each other was a single HPM fire rated GPO box recessed into the panel. A total load of 450 kN was evenly distributed over the wall system for the duration of the test.

The tested specimen achieved a fire-resistance level (FRL) of 240/240/240. The fire-resistance level of specimen is applicable for exposure to fire from either direction.

THIS ASSESSMENT SUPERSEDES ASSESSMENT NUMBERED FCO-2552 DATED 20 DECEMBER 2006

A u s t r a l i a n S c i e n c e , A u s t r a l i a ' s
F u t u r e

You are proposing to use a panel similar to that tested, using the same materials and reinforcement, except that:

- the water/cement ration has been slightly reduced to increase density;
- the wall thickness has been increased from 13 mm to 14 mm;
- the profile of the web section has been changed to increase the amount of material;
- the working load is increased from 150 kN/metre to 400 kN/metre,
- the panel would be filled with 32 MPa concrete instead of 35 MPa concrete,
- the height of the panel would be 2850 mm instead of 2630 mm; and
- the thickness of the panel would be increased from 100 mm to 120 mm;

With the load being increased by to 2.7 times (400/150) the tested load, additional residual wall area must be maintained which is unaffected by the strength reduction characteristic of these materials at high temperature. Thus it was decided to increase the residual area to more than three times of that calculated for the tested specimen.

In our assessment report FCO-1580, a finite element computerised analysis was performed and recognising critical temperature for concrete performance of around 300°C it was determined that when subject to a standard fire exposure to one face re residual concrete section at 120 minutes would be capable of supporting the proposed 400kN/m load. This new section has an increased material cross-section for the 120-mm thick panel and it would therefore be conservatively subject to the same result as the initial analysis

CONCLUSION/ASSESSMENT

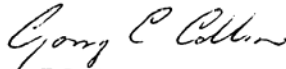
Based on the factors detailed above and using computer modelling with the adjusted thickness of the panel it is the assessment of this Division that, the Ozwall concrete panel to a height of 2850 mm and filled with 32 MPa concrete with working load of 400 kN/meter would be capable of achieving fire-resistance levels of 120/120/120 if tested in accordance with the requirements of AS 1530.4-2005.

Additionally, if the new profile panels where filled with sand/cement grout of density approximately 2000 kg/m³ then the performance as a non-loadbearing element would be equivalent to that of the original test prototype and would be capable of achieving fire-resistance levels of -/240/240 if tested in accordance with AS 1530.4-2005 for a maximum height of 2850 mm.

TERM OF VALIDITY

This assessment report will lapse on 31 December 2011. 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.

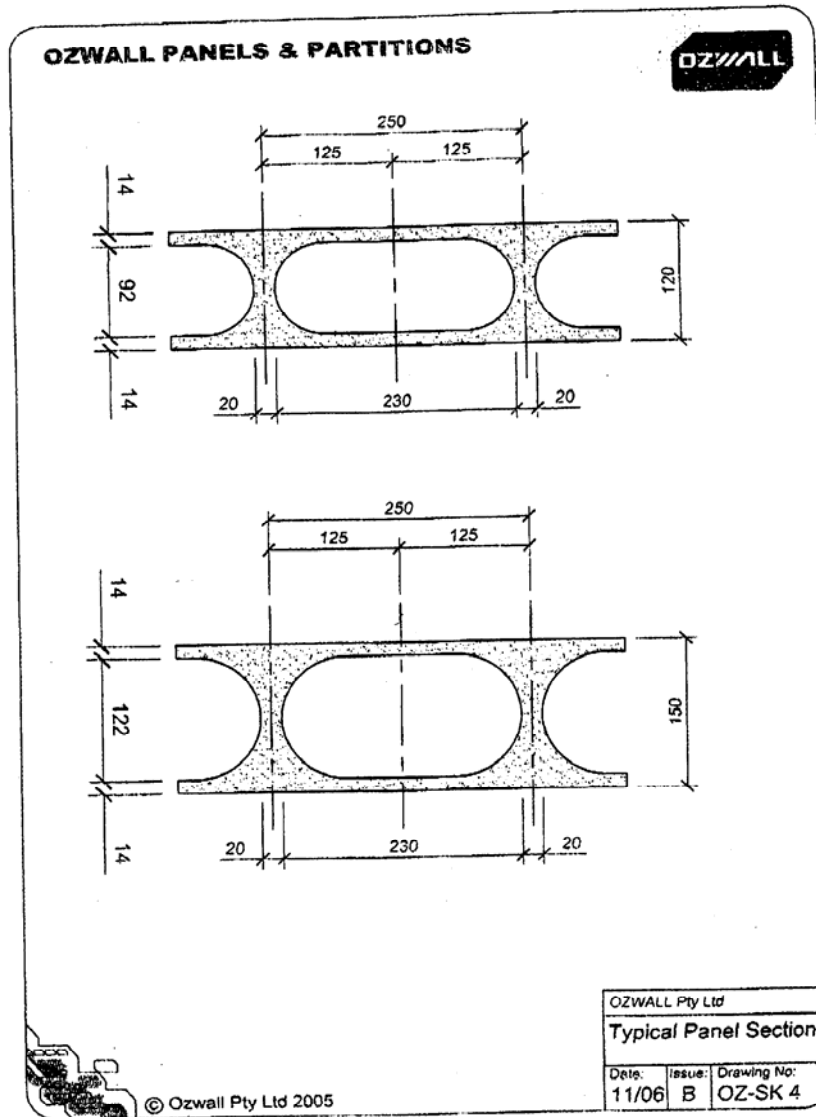
Yours faithfully



Garry E Collins
Manager, Fire Testing and Assessments

16 January 2007.

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