



**Ron Rumble Pty Ltd**  
Consulting Acoustical & Vibration Engineers

ABN: 56 010 264 230

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Quik'n Tuff Systems Pty Ltd  
PO Box 6249  
Acacia Ridge Qld 4110

Attention: Douglas Kedacic

Dear Sir

**Separating Walls for Class 1 Buildings**  
**Eco Series for  $R_w + C_{tr} = 50$**   
**Opinion as to Acoustical Performance**

In July 2004, our office carried out acoustical tests on a number of different wall configurations which utilised the Conpolcrete™ panel in conjunction with plasterboard and fibreglass insulation.

These tests were conducted under laboratory conditions, in a facility which complies with the requirements of Australian Standard AS1191-1985 "Acoustics - Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Elements".

The wall systems chosen for testing were based on independent advice from a fire engineer as to the minimum requirements regarding fire separation. As a result, the top-of-range system had two layers of 13mm fire-rated plasterboard as outer linings on both sides.

Subsequent testing in a fire laboratory has demonstrated that the fire-rated plasterboard linings are not-required to achieve FRL90/90/90 performance. Consequently it has been deleted from the recommended construction details and replaced with either sound-rated plasterboard or water-resistant plasterboard.

We have been asked to form an opinion as to the likely performance of the Eco Series system. Such an opinion has been based on the results of our original tests, using interpolations derived from conventional acoustical theory and on the published research of others.

The wall construction under consideration is described as follows:

- (i) Central core consisting of 50mm Eco Separate fire panel, supported from 90mm stud framing (600 CRS), using proprietary brackets, giving an airspace of 25mm between the studs and panel.
- (ii) A second row of stud framing (600 CRS) on the other side of the panel, independent from and spaced 25mm off the panel.
- (iii) Insulation in both stud cavities comprising 95mm glasswool insulation batts at  $10.8\text{kg/m}^3$ .

96 Petrie Terrace  
PO Box 820 Spring Hill Q 4004  
Telephone 07 3367 3131  
Facsimile 07 3367 3121  
Email: admin@ronrubble.com.au



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- (iv) Surface linings on the outer faces of both stud frames consisting of either one layer of sound-rated plasterboard ( $8.5\text{kg/m}^2$ ) or 13mm plain-core plasterboard ( $8.5\text{kg/m}^2$ ) or 13mm water-resistant plasterboard ( $10.4\text{kg/m}^2$ ).

It is our opinion that this system would achieve a rating of  $R_w + C_{tr} \geq 50$ .

Yours faithfully



**R H Rumble**