

Rapid Building System™

Acoustics Performance
Statement

Prepared By:



www.aenec.com.au

Australian Energy Efficiency Consulting

P.O. Box 1011

Double Bay, NSW 1360

W: www.aenec.com.au

P: 0416 316 204

E: info@aenec.com.au

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This report has been prepared by:

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Please read carefully the following important information:

Disclaimer

Scope Limitations: This document is a comparison between data obtained from the manufacturer of Rapid Building System™ and the BCA 2012 Volume 2 minimum standards and is applicable only for Class 1 Buildings.

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Prepared By:	Dimitrios Harakidas; Mech. Engineer
Signed:	



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BCA 2012 Volume 2

O2.4.6

Sound insulation

The *Objective* is to safeguard occupants from illness or loss of amenity as a result of undue sound being transmitted between adjoining dwellings.

F2.4.6

Sound insulation

A building element which separates dwellings is to be constructed to prevent undue sound transmission between those dwellings.

P2.4.6

Sound insulation

- (a) Walls separating dwellings must provide insulation against the transmission of airborne sound sufficient to prevent illness or loss of amenity to the occupants.
- (b) Walls separating a bathroom, *sanitary compartment*, laundry or kitchen in a dwelling from a *habitable room* (other than a kitchen) in an adjoining dwelling, must provide insulation against impact generated sound sufficient to prevent illness or loss of amenity to the occupants.
- (c) The *required* sound insulation of walls must not be compromised by the incorporation or penetration of a pipe or other service element.

STATE AND TERRITORY VARIATIONS

In Northern Territory P2.4.6 is replaced with the following:

P2.4.6 Sound insulation

- (a) Walls separating dwellings must provide insulation against the transmission of airborne and impact generated sound sufficient to prevent illness or loss of amenity to the occupants.
- (b) The *required* sound insulation of walls must not be compromised by the incorporation or penetration of a pipe or other service element.

VERIFICATION METHODS

V2.4.6

Sound insulation

Compliance with P2.4.6(a) and (c) to insulate against transmission of airborne sound through walls separating dwellings is verified when it is measured that the wall has a weighted standardised level difference with spectrum adaptation term ($D_{nT,w} + C_{tr}$) **not less than 45 when determined under AS/NZS 1276.1 or ISO 717.1.**

STATE AND TERRITORY VARIATIONS

V2.4.6 does not apply in Northern Territory



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External K2 walls thickness 190 mm **Rw = 52dB:**

Silica facade, external levelling compound & Styrofoam sheets with foil, PE film, main load bearing structure reinforced with timber studs & laminated frame elements at typical 450 mm spacing, lined with OSB board, mineral wool as thermal insulation and OSB board with plasterboard for internal finish.

Internal walls thickness 90 mm **Rw = 46dB:**

Internal partition bearing and self-supportive panels, reinforced with timber studs & laminated frame elements, mineral wool as thermal insulation, lined with OSB boards and plasterboard both sides

Rw values have been obtained as per HRN EN ISO 717-1:1998

Conclusion

By comparing information obtained by Rapid Building System™ manufacturer in terms of Rw Weighted Sound Reduction Index values and the minimum performance required by the BCA V2.4.6 Verification Method, it appears that Rapid Building System™ K2 wall is performing above minimum requirements.

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