



BUILDING NOTE

NUMBER 12-2003

AUGUST 2003

INTERPRETATION OF BCA CLAUSE 3.12.1.4 (a) (iii) “External Walls”

The Department has responded to a request by building industry, and local government, stakeholders to interpret BCA clause 3.12.1.4. (a) (iii) which regulates the construction of external walls in relation to the Energy Efficiency Measures for buildings constructed in climate zones 4 & 5.

The clause reads:

“The external wall must...in climate zones 4 & 5 achieve a surface density of not less than 220 kg per square metre...”

The BCA defines an external wall as *“...the outer wall of a building which is not a separating wall.”*

A common form of construction in Western Australia is to attach a garage, consisting of single skin masonry walling, to a dwelling and build a dividing wall of single skin masonry to separate the garage from the dwelling.

As a consequence of this form of construction the outer wall of the garage is unable to comply with BCA clause 3.12.1.4. (a) (iii) which would require it to have a surface density of 220 kg per square metre.

The Housing Industry Association (HIA) has thermally modelled a typical home of 228 square metres in floor area incorporating an attached garage using FirstRate, Bers and NatHers software to identify the benefits of incorporating a fully enclosed insulated garage in limiting heat loss, and gain, to the habitable conditioned parts of the attached dwelling.

As a result of this testing the Department considers that the Performance Clause P2.6.1. titled *“Building”* may be satisfied, in this respect only, by providing R2.5 ceiling insulation to both the house and the garage to compensate for the lack of mass in either the external, or internal single skin, masonry walls.

The clause may alternatively be satisfied by:

- (a) constructing the garage wall to achieve the required density or
- (b) constructing the internal dividing wall to achieve the required density or
- (c) submitting an Alternative Solution using one of the Verification Methods

Local governments are encouraged to approve this Building Solution until such time as the BCA can be revised to resolve this local issue at Amendment 14.



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