

## BULLETIN RB06-011

(Updated 2015 Dec 10)

### DOUBLE WALL ASSEMBLIES WITH GYPSUM BOARD WITHIN STUDS

Reference: Div B, Appendix D, 2.3.3., Div B, Appendix D, 2.3.4. and Table D-2.3.4.A.

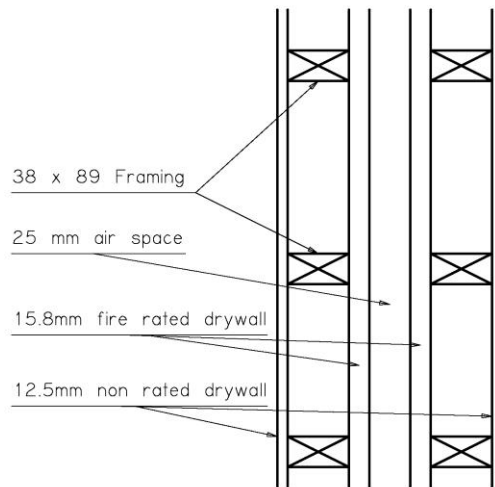
Div B, Appendix D, 2.3.3. "Limitations of Component Additive Method."

Div B, Appendix D, 2.3.4. "Method of Calculation."

The above Articles and Table give the contribution to the fire resistance rating of various membranes, structural members, etc.

#### Question:

Does the double-wall assembly shown below (or similar assemblies based on the same concept) where the fire rated membranes are on the interior rather than the exterior of the wall assembly meet the intent of these requirements?



### **Commentary / Relevant Facts:**

Although this wall meets the assigned times given in the above Table mathematically, there are other considerations to be taken into account:

1. The 20 minutes assigned to the framing may be reduced if it is subject to attack directly by the flames at the very beginning of the fire without being initially protected by a layer of gypsum board.
2. The fact that the framing is directly attached to a membrane finish material of unknown flame-spread rating and combustibility may also reduce the above assigned time of 20 minutes.
3. In a conventional double party wall with gypsum board on the exterior, a time of 40 min. (i.e., the time assigned to 15.8 mm fire-rated gypsum board) will elapse before one-half the wall will collapse and reduce the structural capacity by half. In the wall assembly shown above, this same amount of failure will take place in 20 minutes or less (i.e., the time assigned to the studs).

### **Conclusion:**

The assembly shown (or similar assemblies designed on the same concept) is not acceptable for fire rated double party walls.

Chief Building Inspector

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Unless stated otherwise, the Code references in this bulletin are to Division B of the Alberta Building Code 2014 (ABC 2014). Bulletins do not overrule the ABC 2014 nor constitute a relaxation of the Code. They serve to clarify the Code in areas where the latter is ambiguous or does not cover a specific topic. Bulletins are City of Calgary clarifications for staff use to enable consistency in the application of the Code. These bulletins should always be read in the context of the appropriate requirements of the Code.