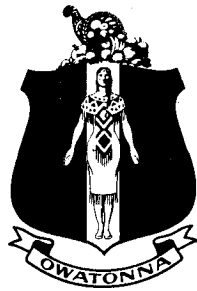


# THE CITY OF

Building Inspection  
Division



# OWATONNA

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## **Code Interpretation: Air Space behind masonry brick / weather-resistant membrane. 2000 IRC 703.7.4.2 and 2006 IRC 703.7.4.3**

February 22, 2007

**The Owatonna Building Inspection Division has been requested to review the correct application of weather-resistant membrane or building paper over sheathing behind masonry veneer applications.** It appears the current practice is to install 2-layers of #15 felt paper over the sheathing or 1-layer of #15 felt over a manufactured building wrap. The concern is that moisture will be trapped between the layers of building wrap.

Upon review of the code section in question, R703.7.4.2 requires a minimum of 1-inch air space and maximum of 4.5-inch air space is required behind masonry veneer. {Note: MN amendment to IRC 703.2 requires 1-layer weather-resistive barrier over all exterior wall sheathing. This requirement takes president over R703.7.4.2 which would allow for no building paper over sheathing when the air space is provided}. Additionally, flashing and weeps shall be provided per code sections R703.7.5 & R703.7.6

As an alternate to providing the required 1-inch minimum / 4.5-inch maximum air space IRC 703.7.4.3 indicates the air space can be eliminated provided the entire air space is filled with mortar and 1-layer of building wrap described in R703.2 is installed over the building sheathing.

**Answer to question: 1-layer of building paper as prescribed in 703.2 is required behind masonry veneer whether an air space is provided or not.**

Additional note: MN amendment to R703.6.3 plaster applications requires a weather-resistive vapor permeable barrier with a performance at least equivalent to 2-layers of "GRADE-D" paper. Grade "D" paper is not your typical #15 felt paper or housewrap, it is a paper manufactured from virgin Kraft paper, unlike felts, and then impregnated with asphalt. The longer fiber in the Kraft paper allow for a lighter weight product with similar and often better mechanical properties than felt. Some of your stucco wraps etc. may still require 2-layers if the ICC Evaluation Reports indicate equal to 1-layer of grade D paper. Further research will be done on this subject.

I have consulted with ICC (International Code Council) for an interpretation to these provisions, below are those communications:

Code Question:  
Code Edition: 2006 IRC  
Code Section: section R703.7.4.3 Mortar or Grout Fill.

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Code Question: When applying the alternate to the required 1- inch air space does the reduced cavity need to be completely filled with mortar or grout or does "permitted to fill" mean dropping within the reduced (less than) 1-inch air space.

What is the definition of filled in this application?  
\*\*\*\*\*

Dear Mr. Schwanke:

Re: Section R703.7.4.3 of the 2006 IRC

The intent of this section is to allow the space between the brick veneer and the wall sheathing to be filled as an alternative to the required 1" minimum air space. This section requires that the space be completely filled with mortar or grout to eliminate any possible voids.

If voids were present, there is a good chance that water could migrate to these voids, thereby compromising the integrity and durability of the wall. I am not a mason, therefore, I cannot authoritatively say whether "dropping" will meet the requirement of this section.

This opinion is based on the information which you have provided. We have made no independent effort to verify the accuracy of your submitted information nor have we conducted a review beyond the scope of your question. As this interpretation is only advisory, you, the building official has the final authority to interpret the code.

Sincerely,  
John S. Gonzalez

-----Original Message-----

From: Lis Valdemarsen  
Sent: Thursday, January 25, 2007 2:16 PM  
To: John Gonzalez  
Cc: 'marks2@ci.owatonna.mn.us'  
Subject: 06 IRC R703.7.4.3

Mark,  
I have forwarded your request to John Gonzalez.

If you have any questions regarding the status of your reply to your code opinion question, please contact me by either phone or email.

Sincerely,  
Lis Valdemarsen  
Administrative Assistant  
International Code Council, Inc.  
Los Angeles District Office  
5360 Workman Mill Rd  
Whittier, CA 90601-2298  
Phone: (562) 699-0541 ext 3201  
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[www.iccsafe.org](http://www.iccsafe.org)

For code questions go to the ICC website, <http://www2.iccsafe.org/cs/interps/>