



DEPARTMENT OF PUBLIC SAFETY AND CORRECTIONS

Public Safety Services



V. J. BELLA
STATE FIRE MARSHAL

MIKE FOSTER, JR.
GOVERNOR

December 16, 1997

Jerome A. Gaudet, AIA
Gaudet & Tolson, Ltd.
361 South Main St.
Opelousas, La 70570

**RE: Fire Resistive Barriers
Joints for Gypsum Board Walls**

Dear Mr. Gaudet:

This office has reviewed your request for clarification of perimeter joint requirements for U.L. Design No. U309 intersecting a wood roof deck and reached a determination based on the following:

1. Design No. U309 Item 2 requires 6d cement coated nails at 7 inches on center.
2. Design No.'s U305, U314, U317, U323, U325, and U326, require 6d cement coated nails at 7 inches on center.
3. Design No.'s U304, U311, U313, U320, U331, U334, U338, through U342, U348, U349, etc. indicate continuous perimeter wood blocking.
4. Joint systems for head of wall details all indicate continuous perimeter framing for metal stud walls (subject to expansion) with a top ceiling runner of 25 gauge metal that is not attached to the studs, but does have a gypsum board overlap that maintains a 1/2 to 3/4" gap between the decking and gypsum board that is filled with a specific "fill, void or cavity material - sealant" that is compressible.
5. Wood framing is not subject to the same thermal expansion characteristics as metal framing. This office must therefore assume that this is the reason the directory does not contain any reference to joint assemblies for walls having wood studs.

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After a review of the above information, this office has determined that continuous wood blocking must be provided against the wood roof deck to secure and stabilize the top edge of the gypsum board. The gypsum board shall be required to be attached with 6d cement coated nails spaced at a maximum of 7 inches on center. In regard to your request concerning the use of "Gold Bond FS-90" as manufactured by National Gypsum Co., a review of the U.L. Directory indicates this material was tested for use in system no.'s CAJ0038, CAJ1163, CAJ3073, WL1041 and WL3035. The CAJ0038 system is a floor or wall penetration seal requiring a 2 inch minimum thickness of the referenced product, therefore not applicable to the above referenced joint detail. Similarly, CAJ1163 requires 2" of fill material and CAJ3073 requires 1" of fill material. The WL1041 and WL3035 wall systems both require a minimum thickness of 1 1/4" on each side of the wall for these through-penetrated fire stop systems, therefore not applicable to the above referenced joint detail.

Since the proposed fire barrier, consisting of one layer of 5/8" fire resistive gypsum board each side of 2 x 4 wood studs 16" o.c., will have continuous 2 x 4 wood blocking around it's perimeter, it is the determination of this office that if the gypsum board overlaps the blocking to such an extent that the perimeter is in contact with the wood roof decking or has a gap of less than 1/4 of an inch, a "fill, void or cavity material - sealant" will not be required.

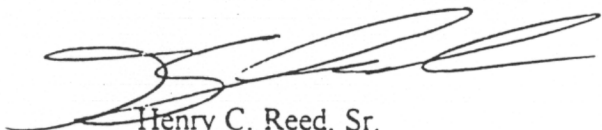
This determination is based on the fact that it would take longer to burn thru 3 1/2 inches of wood blocking than it would take for a fire to burn through the one hour fire resistive barrier. Where the perimeter gap is 1/4" to 1/2" in width a sealant tested to resist fire for one hour in a depth of 5/8" and a width of up to 1/2" will be required. Joints larger than 1/2" shall not be allowed based on the determination that a minimum of a 1" gypsum board overlap of the 2 x 4 would be necessary to secure and stabilize the gypsum board edge. As an alternate to the use of a tested sealant, as noted above, perimeter gaps of 1/4" to 1/2" in width may be overlaid by a 6" min. width layer of 5/8" fire resistive gypsum board secured to the blocking at a 7" max. spacing with 6d cement coated nails. If this alternate is used, the overlapping layer must completely cover the gap and butt against the wood deck. The above construction details may also be used where a one hour fire resistive tested assembly abuts penetrating wood framing.

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If you have any questions regarding this determination, please contact this office.

Sincerely,



Henry C. Reed, Sr.
Architect Supervisor

HCR/kmw

cc: Jerry W. Jones
Henry C. Reed, Sr.
Review Staff
District Inspection Offices

gaudet

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