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New Flash Video on GA Website

A new informational flash video created by the Gypsum Association explains the origins of gypsum board and the features and benefits of building with gypsum products. The presentation is posted on the Association's website and can be accessed at www.gypsum.org.

The production consists of a slideshow and a streaming video testimonial featuring Joe DiCara, AIA, an architect who specializes in public school construction and rehabilitation. In his testimonial, Mr. DiCara explains how gypsum products can be effectively used in the construction or rehabilitation of school buildings to shorten construction times and lower construction costs.

An electronic copy of the video, suitable for posting to a website, can be obtained by contacting the Gypsum Association.



Gypsum Board Over Foam Insulation

Gypsum board may be applied over rigid plastic foam insulation on the interior side of exterior Masonry and concrete walls to provide a finished wall and protect the insulation from early exposure to fire originating within the building. These systems provide high insulation values needed for energy conservation. Gypsum board applied over rigid plastic foam insulation in the manner described in this article may not necessarily provide finish ratings required by local building codes.

Many building codes require a minimum fire protection for rigid foam on interior surfaces equal to that provided by ½-inch gypsum board. Flammability characteristics of rigid foam insulation products vary widely, and the manufacturer's literature should be reviewed.

In applying gypsum board over rigid foam insulation, the entire insulated wall surface should be protected with the gypsum board, including the surface above ceilings and in closed, unoccupied spaces. Single or double-ply, ½-inch or inch thick gypsum board should be screw-attached to steel wall furring members attached to the masonry in accordance with the insulation manufacturer's directions, or with nails or screws directly into wood framing.

Furring members should be installed vertically and spaced 24 inches o.c. *(Continued on page 27)*

Finishing Gypsum Board Above Ceilings

Joints in fire-resistance rated gypsum board walls and partitions are generally required to be finished to at least a "Level 1" finish as defined in *Recommended Levels of Gypsum Board Finish*, GA-214-96. This is commonly referred to as "fire taping" and includes, in some jurisdictions, covering the fasteners with at least one coat of joint treatment compound. This minimum level of protection for joints and fasteners is necessary to assure that fire does not prematurely pass through the joints or calcine the gypsum around the fasteners, resulting in early flame entry into the wall cavity.

An exception to this practice occurs when the joints and fasteners are located above the ceiling of a fire-resistance rated floor-ceiling or roof-ceiling system and the wall or partition is not part of a sound

control or smoke control system. When fire-resistance rated walls or partitions extend above the ceiling membrane, it has been shown that the ceiling membrane will provide protection for the joints and fasteners in that portion of the gypsum board wall membrane located above the ceiling. As such, there is no technical reason to require either the joints to be taped and finished or the fasteners to be coated with joint compound. This is reflected in the published recommendations of both the Gypsum Association and Underwriters Laboratories Inc.

Many fire tests have demonstrated that joint and fastener treatment materials on wall systems being fire tested remain in place for only a few minutes early in the test. However, these few minutes are important to the performance of the system. Tests of floor-ceiling and roof-ceiling systems have demonstrated that the ceiling membranes of rated floor-ceiling systems and roof-ceiling systems achieve finish ratings of ten minutes or more many of these finish-ratings are considerably greater than ten minutes. This means that the temperature on the back surface of the ceiling membrane is well below the temperature at which the face paper of the gypsum board above the ceiling will ignite or char for a longer period of time than when protected by joint compound.



(Gypsum Board Over Foam Insulation, continued from page 1)

backing as required for attachment and support of fixtures and furnishings should be provided. Furring members should also be attached at floor-wall and wall-ceiling angles (or at the termination of gypsum board above suspended ceilings), and around door, window and other openings. Single-ply gypsum boards should be applied vertically with the long edges of the board located above furring members. Gypsum boards should be placed so that end joints are avoided. Fastener spacing should be as required for single-ply application over framing or furring.

In double-ply applications, the base ply should be applied vertically. The face ply may be applied either vertically or horizontally. Edge joints of vertically applied face ply and end joints of horizontally applied face ply should be off set at least one furring member space from base ply edge joints. Fastener spacing should be as required for two-ply application over framing or furring.

In all wall board applications, mechanical fasteners should be of such length that they do not penetrate completely to the masonry or concrete. In single layer application, all joints between gypsum boards should be reinforced with tape and finished with joint compound. In two-ply application, the face layer joints may be concealed or left exposed. Vinyl-faced gypsum board face layers should not be adhesively applied over a rigid foam insulation wall, except as recommended by the gypsum board manufacturer.



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Link to GA Document on Assessing Water Damage

In the April edition of Chapter 25 Board Talk, we announced the revision of GA-231, *Assessing Water Damage to Gypsum Board*, which provides useful information for determining whether gypsum board that has been subjected to wet conditions can be restored or if it must be replaced. In response to questions that have arisen in the aftermath of recent tropical storms, hurricanes, and flooding, and in anticipation of future extreme weather events, the Promotion Committee of the Gypsum Association has recommended that the link to this document on the Gypsum Association's website at <http://www.gypsum.org/pdf/GA-231-06.pdf> be offered to other organizations for their members and website visitors to view and download free of charge. If your organization receives questions regarding gypsum board that has been subjected to excessive moisture, feel free to add this URL to your website. We ask that if you do add this link to your website that you let us know via email at ljones@gypsum.org.



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Q: Can fire-resistance ratings and flame-spread ratings be used interchangeably?

A: No. A fire-resistance rating is usually defined as the time, in hours or fractions thereof, that construction materials or composite systems will resist fire penetration when tested in accordance with ASTM E119 (sometimes called the "furnace test"). Fire-resistance ratings determined by this test method measure the relative effectiveness of various building components and assemblies to act as fire barriers.

A flame spread rating, on the other hand, is the assessment of the relative rate at which fire will propagate over the surface of a material. ASTM E 84 (the Steiner Tunnel Test) is used to establish flame spread ratings and measure smoke generation. In this test, inorganic reinforced cement board is assigned an index of 0 and red oak an index of 100. From these benchmarks relative values are established with a higher number indicating a greater rate of flame propagation.

Think of being in a burning corridor with a fire-resistance rating of one hour, which has been decorated with a fabric wall covering material that has a very high flame-spread rating. If you can get out of the corridor, you'll be protected by the fire resistance of the wall material; however, if the wall fabric is extremely flammable, all your efforts to escape may well be futile as the flames may be exacerbated by the wall covering.

Both fire-resistance and flame-spread ratings are important fire protection concepts, but they do have distinctly different applications. What about gypsum? Gypsum products typically offer both high fire resistance and low flame spread ratings the best of both distinct worlds!

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BOARD TALK**
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CHAPTER 25 - BOARD TALK

WINTER 2006

STAY CURRENT IN THE DRYWALL FIELD

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GA-216-2004
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