

GYPSUM NEXUS

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GA RELEASES THE 19TH EDITION OF ITS' FLAGSHIP PUBLICATION

The Gypsum Association is pleased to announce the release of the 19th edition of GA-600, Fire Resistance Design Manual (FRDM). Since 1959, the Association has regularly published its collection of the latest in fire-resistance rated gypsum building system designs. And over the last 50 years, the manual has become the standard industry reference document for architects and design professionals, builders and drywall contractors, and the building code enforcement community.

The FRDM now contains laboratory tested designs for both fire-resistance- and sound-attenuation-rated gypsum board building systems. The rated systems include walls and partitions; floor-ceiling systems; roof-ceiling systems; column protection systems; and beam, girder, and truss protection systems. Fire resistance ratings range from one to four hours; sound attenuating systems range from 30 to 69 in sound transmission class (STC). The FRDM also contains sections that describe the requirements necessary for correctly assembling fire-resistant and noise-attenuating building systems.

The FRDM is currently referenced by the *International Building Code*, the *BOCA National Building Code*, the *Uniform Building Code*, the *Standard Building Code*, and *The National Fire Codes*, as well as many state and local jurisdictions in the US and Canada as a source document for fire-resistance and sound-control rated designs that incorporate gypsum board in a variety of building systems.

The 19th edition of the FRDM is available from the Association via its website at www.gypsum.org. The new edition offers a total of 89 new proprietary building system designs: 51 wall and partition designs, 8 area separation fire wall designs, 17 floor-ceiling designs, 3 roof-ceiling designs, and 10 column designs. Other minor changes to the FRDM include new language in the introduction regarding which provisions prevail when there are differences between code language and other standards, new testing agency listings, and a list showing specific sections in ASTM C 1396 that apply to various gypsum panel products.

THE PROPER USE OF GREEN BOARD

Roughly five years ago, the model building codes began to limit the use of water-resistant gypsum board ("green board") in shower and tub areas. Language that originally appeared in the 2004 Supplement to the International Codes – and only applied to the International Residential Code – limited the use of tile backer products that were permitted for use in "wet areas" and excluded green board from the list of approved materials. That language has evolved into more limiting and descriptive passages that now also appear in the International Building Code.

Five years of the above described evolving modifications have also given rise to two commonly held misconceptions about the revised model code language. The first and most egregious misconception is that the language absolutely prohibits the use of green board in bathrooms. Such is not the case, for the language only mandates the use of a material other than green board in shower and tub areas – locations typically referred to as "wet areas" in bathrooms. Tiled locations other than those at shower and tub surrounds may still use gypsum board as the backing board or tile backer.

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NEW ASTM STANDARD LEADS TO CODE CHANGES THAT ALLOW USE OF GYPSUM PRODUCTS

The gypsum board manufacturing industry has created several impact-resistant products over the last few years. These materials often provide four to five times the impact-resistance of traditional gypsum board products. However, until most recently, there has been no means to objectively quantify the impact resistance of these products against that of other building materials.

To facilitate such comparisons, the gypsum board industry created a new standard: ASTM C 1629, *Standard Classification for Abuse-Resistant Nondecorated Gypsum Panel Products and Fiber-reinforced Cement Panels*. The new standard establishes classifications of abuse resistance for gypsum panel products and cement panels.

ASTM C1629 enables producers to specifically quantify the performance of gypsum panel and cement board materials and systems using four tests: a surface abrasion test; an indentation test; a soft body impact test; and a hard body impact test. ASTM C1629 also provides the means to produce the technical substantiation criteria necessary to craft code proposals that permit the use of gypsum core impact-resistant (i.e., abuse resistant) materials in high-rise egress shafts.

This is a significant development in light of post-9/11 demands to ensure that vertical egress from high-rise buildings is not inhibited by the possible collapse of the walls that create the egress system enclosures, as construction standard and building code committees have consequently considered numerous proposals promising more robust and impact-resistant egress systems over the past eight years.

The first code reference of ASTM C 1629 occurred in the New York City Building Code approximately two years ago. Similar language was shortly thereafter approved by the International Code Council in 2008 and published in the 2009 *International Building Code* (IBC).

The IBC language requires exit and elevator hoist way enclosures in buildings over 420 feet in height to be constructed using wall assemblies that display a Level 2 Soft Body Impact Test Classification and incorporate materials complying with specific Hard Body Impact criteria, or masonry or concrete walls. Many gypsum and cement board building materials and systems comply with the soft and hard body criteria, and the specific materials can easily be integrated into traditional shaft wall enclosure systems. The new code language does not modify the fire-resistance requirements for the enclosure.

Individual manufacturers produce the impact- and abuse-resistant products that comply with the code criteria. Because the materials are somewhat proprietary, the manufacturer should be consulted during the design and application stage of a project to ensure a proper application.



GREEN BOARD (CONT.)

The second misconception is that the incorporation of the new language into the codes somehow modified the long-standing model code mandate that narrows the spacing of framing members when green board is applied to a ceiling. To the contrary, that language was not modified in either the IRC or the IBC, and it remains unchanged to this day. Both codes still contain language that reduces the allowable distance between framing members when green board is applied to a ceiling.

Subtle differences do exist between the language in the IBC and the IRC; however, the overall intent is identical: use a material other than green board at tub and shower surrounds. The IBC mandates the use of the backing materials at “ceiling panels in shower areas” – language that does not appear in the IRC – and the IBC contains a slightly different product list when compared to the IRC. It also incorporates technical language to describe the materials that is somewhat more precise than that used in the IRC.

It's interesting to note that while the net effect of the code language is to prohibit the use of green board in wet areas, neither code is written using a manner that specifically bans the material; instead, both incorporate positive voice language that mandates the use of specific products other than green board at specific locations. Using the positive voice makes enforcement of the code cleaner and helps eliminate situations where an attempt might be made to use a fully inappropriate product that has just come onto the market.

STANDARDS TO BE REVISED

Now that it appears that the language limiting the use of green board is here to stay, organizations such as the Gypsum Association are beginning to revise impacted documents. GA-216, *Application and Finishing of Gypsum Panel Products*, is presently under review for creation of a 2010 edition, and the appropriate sections of the text will be modified to reflect a reference to the modified code language. Doubtless a similar discussion will occur regarding ASTM C 840, *Application and Finishing of Gypsum Board*. Organizations such as the Tile Council of North America are also reviewing related language.



GYPSUM ASSOCIATION PROPOSES CODE CHANGES

With the intent of clarifying current model code language, the Gypsum Association has submitted a series of code change proposals that, if approved, will remove references to nine unavailable gypsum board standards that appear in the *International Building Code* (IBC) and the *International Residential Code* (IRC).

All nine of the standards were eliminated from circulation by the ASTM C-11 Committee on Gypsum and Related Building Materials and Systems in late 2004 when a composite standard containing specifications for all the gypsum products addressed by the individual standards was universally adopted for use by the gypsum board industry. The composite standard, ASTM C1396/C 1396M was first released in 1998. At that time, the gypsum industry agreed to a dual-labeling program that lasted until 2004 at which time all manufacturers began to label material using only the composite standard reference designation.

“It's clearly time to get the old, unusable references out of the IBC and IRC,” says Michael Gardner, Executive Director of the Association, “because their inclusion occasionally causes confusion for some end users. The revised language won't appear in print until the 2012 editions of the IBC and IRC; however, we can and will do some education about the proposed changes prior to that date, assuming approval of the proposals.”

The reference to the ASTM C 1396 standard was incorporated into both the IBC and IRC in the early part of the decade. Elimination of the individual standards will not impact the ability of a code user to use gypsum board products.

The proposals will be heard during the Code Development Hearings scheduled for October 24 through November 11, 2009, in Baltimore, Maryland. The hearings are conducted as a part of the 2009 International Code Council Annual Conference.

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ESSENTIALS

FROM THE

GYPSUM ASSOCIATION

FIRE RESISTANCE DESIGN MANUAL

GA-600-2009 19th Edition

Includes fire resistance ratings for over 420 gypsum protected wall, ceiling, roof, column, beam, girder, and truss systems. Contains laboratory tested designs for fire-resistance and sound-attenuation-rated gypsum board building systems. Over 80 new proprietary building system designs offered. Referenced by the International Building Code, Uniform Building Code, BOCA National Code, the Standard Building Code, and the National Fire Codes. Also referenced in major jurisdictions in the United States such as Florida, Chicago, Los Angeles, and New York City. Recognized in major jurisdictions in Canada. 178 pages.

FIRE RESISTANCE DESIGN MANUAL

GA-600-2006 18th Edition

Includes fire-resistance ratings for over 375 gypsum protected wall, ceiling, roof, column, beam girder, and truss systems. Over 40 system designs have been added since the previous edition, including several new floor and roof-ceiling systems and double-stud steel partition designs. Referenced by the International Building Code, Uniform Building Code, and the Building Construction and Safety Code, NFPA5000. Also referenced in major jurisdictions in the United States such as Florida, Chicago, Los Angeles, and New York City. Recognized in major jurisdictions in Canada. 158 pages.

APPLICATION AND FINISHING OF GYPSUM PANEL PRODUCTS

GA-216-2007

Describes the most up-to-date industry and building code recommendations for the proper installation and finishing of gypsum panel products, including related accessories, over a variety of substrates and framing. An invaluable resource for drywall contractors. 18 pages.

DESIGN DATA - GYPSUM BOARD

GA-530

Our most complete collection of current Gypsum Association publications containing the most recent edition of the Fire Resistance Design Manual (GA-600) as well as GA-214, GA-214-M, GA-216, GA-220, GA-221, GA-222, GA-223, GA-224, GA-225, GA-226, GA-229, GA-232, GA-234, GA-235, GA-236, GA-253, GA-254, GA-276, GA-290, GA-291, GA-406, GA-510, GA-515, GA-610, GA-618 and ICC-ES ESR-1338.

RECOMMENDED LEVELS OF GYPSUMBOARD FINISH

(GA-214) RESOURCES

Levels of Finish resources provide information on the 5 levels of gypsum board finish and will enable you both to anticipate the final appearance of decorated wall and ceiling systems and to achieve a specified finish. Resources cover factors to be considered, terminology, where each level should be used, and the minimum requirements for each level. Featured resources include GA-214-VS, an 11 minute Levels of Finish video containing Spanish narration, and GA-214-CCD, an instructional CD-ROM (English).

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- Please send me the latest *Catalog of Publications, Resources, and Training Materials*

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