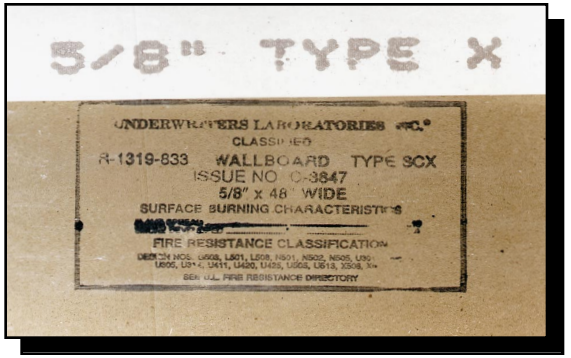
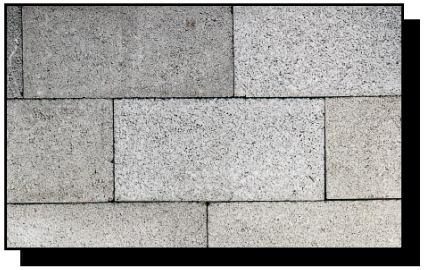
KEEP THE PLAYING FIELD LEVEL . . .

Gypsum Board Systems – Proven Performance



Gypsum Board
Typical Third-Party Certification



Concrete Block - No Evidence of Third-Party Certification

As a building official, which is preferable?

LOOK INSIDE FOR THE FACTS . . .

GYPSUM ASSOCIATION
810 First Street, NE
Suite 510
Washington, DC 20002
202-289-5440

These photographs dramatically demonstrate the actual performance of and ability to protect adjacent property by a gypsum board area separation wall.

1996 MEMBERSHIP LIST

ATLANTIC GROUP LIMITED

BORAL GYPSUM INCORPORATED

THE CELOTEX CORPORATION

CENTEX AMERICAN GYPSUM COMPANY

CONTINENTAL GYPSUM COMPANY

EAGLE-GYPSUM PRODUCTS

G-P GYPSUM CORPORATION

JAMES HARDIE GYPSUM

LOUISIANA-PACIFIC CORPORATION

NATIONAL GYPSUM COMPANY

PABCO GYPSUM
A Division of Pacific Coast Building Products, Inc.

REPUBLIC GROUP INCORPORATED

TEMPLE-INLAND FOREST PRODUCTS CORPORATION

UNITED STATES GYPSUM COMPANY

WESTROC INDUSTRIES LIMITED

IMPORTANT

Publications or Questions

about

designing,

building, or

inspecting

fire-rated gypsum systems may be

directed to the Gypsum Association's

Technical Services Division

at

202-289-5440

IMPORTANT

GYPSUM BOARD'S QUALITY ASSURANCE

For over 50 years gypsum board has been accepted as a high performance, fire-resistive material. It is economical and easy to install and inspect. During this time, the gypsum industry has invested millions of dollars in research and development of new and improved products and systems as well as in fire-testing and product-labeling programs. This voluntary investment in maintaining uniform standards provides gypsum board users a level of comfort that is not achievable with masonry materials whose fire-resistive properties are usually unknown. Today's fire-rated gypsum boards are of superior quality and provide fire protection needed in modern construction. To ensure continuing quality of their products, gypsum board manufacturers subscribe to the following creed contained in GA-600, the Gypsum Association's Fire Resistance Design Manual:

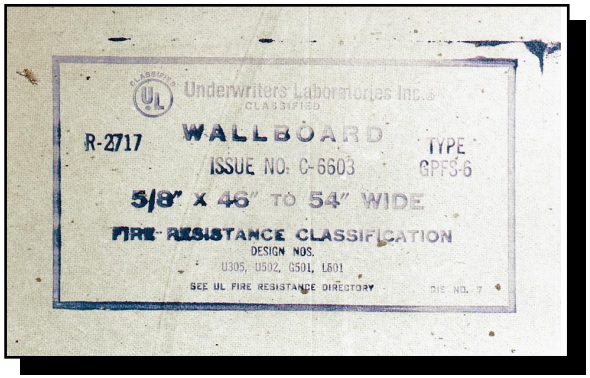
In order to maintain industry-wide quality assurance standards for gypsum board defined in this Manual as "type X," the Gypsum Association requires that any company listing proprietary tests or systems, or relying on the generic systems in this manual, shall subscribe to an on-going third-party, in-plant product inspection and labeling service. Additionally, member companies make annual written certification to the Gypsum Association that their products manufactured for use in systems listed in this Manual continue to be inspected and labeled by an independent third party testing service as listed on page 4.

The philosophical and technical reason for this voluntary industry-wide certification is to provide assurance to architects, builders, owners, occupants, and building officials that the type X gypsum board used in fire-resistance rated systems that appear in GA-600 has had its formulation and manufacturing process reviewed, monitored, and attested to by an approved independent third party. Code enforcement officials can easily determine the type and quality of gypsum board used in fire-resistive systems. The same type of information should be collected for masonry units.

INDEPENDENT CERTIFICATION OF PRODUCT

Numerous fire-resistive systems that appear in the Gypsum Association's Fire Resistance Design Manual, GA-600, are also listed in the UL Fire Resistance Directory and in the published directories of other approved certification and testing organizations where specific trade names, products, and manufacturers are detailed. The names and products of members of the Gypsum Association in the United States and Canada are listed in at least one of these nationally recognized authoritative sources of fire-resistive materials. In contrast, the listing of manufacturers of fire-rated masonry units in UL's directory is very limited in the number of manufacturers and geographical locations. This means that throughout the country, hundreds of local companies may be producing and selling masonry units that are being used every day in fire-rated construction but that do not provide the essential certification from an independent organization. This reliance on local companies, frequently with little or no research, development, or testing capability or inclination, should alert building officials to the fact that masonry units may not always be uniform in meeting code requirements.

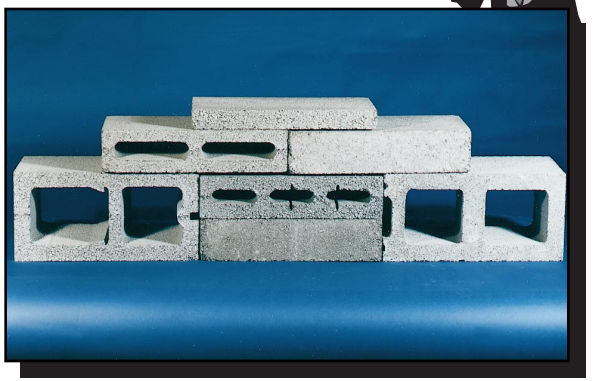
The fragmented and localized nature of the masonry industry makes it difficult, if not impossible, for code officials to ensure that concrete block used in fire-rated construction for which they are responsible is of sufficient quality to actually meet code requirements.



How can you distinguish a fire-rated concrete block from an unrated one? The answer to this question should be of concern to building and fire code enforcement officials in the U.S. and Canada.

PROPER CERTIFICATION

Code enforcement personnel recognize that one of their major responsibilities is to ensure that construction materials used in buildings that require fire-resistive components are manufactured, certified, delivered, constructed, and inspected in such a manner that their intended performance in fire-resistance rated systems will not be compromised. Masonry contractors, just as drywall contractors, should provide the building official with valid written evidence from an approved independent third-party inspection service such as Underwriters Laboratories Inc., Factory Mutual, Inchcape Testing Services/Warnock Hersey, or Omega Point Laboratories, Inc. to verify the material's quality. Providers and installers of masonry components for fire-resistive construction should be requested to supply the necessary documentation that will provide assurance for the code official and building occupants that properly manufactured masonry units are used as required by the code.



The quality and rating of masonry units depend on a variety of factors, such as density, percent voids, and type of aggregate used in manufacturing the unit.

CERTIFICATION OF FIRE-RESISTIVE PRODUCTS

Third-party certification becomes absolutely essential to ensure adequate quality of masonry materials used in fire-resistive systems because it is virtually impossible to look at a masonry unit or fabricated masonry wall and determine several critical components and features, such as the following:

- types of aggregates in the block (sand, cinders, etc.)
- mass/density of the individual blocks (lightweight vs. normal)
- thickness of walls of individual blocks (number of cells vs. solid)
- overall thickness of the block
- percent solid (proportion of the block that is not an air cavity)
- UL or other independent classification (type of block)
- type, thickness, proportioning, and classification of mortar used to build fire-rated walls.

The preceding characteristics affect the fire resistance of the finished wall in important ways and many cannot be determined by a simple visual or physical examination of the materials before or during construction. In contrast, each piece of type X gypsum board displays a mark from an approved independent third-party testing and labeling service that attests to its suitability for use in fire-rated systems. **Code officials and building owners and occupants should expect no less objective assurance from the producers and providers of masonry materials and systems.**

GYPSUM BOARD vs. OTHER FIRE-RATED MATERIALS

As gypsum board made inroads into the established construction market place as a widely accepted fire-resistive material, rival industries fought fiercely to retain and then to regain lost market share of fire-rated building materials. However, the development of specially enhanced fire-resistive type X gypsum board to be used in fire-rated construction of fire walls, party walls, area separation walls, etc., ensured the growth and success of gypsum board.

As soon as designers, builders, owners, building officials, and others recognized that gypsum board served as an effective and economical replacement for competitive materials in fire-rated construction, gypsum quickly became the building material of choice for this purpose.

Gypsum board's major rival industry found competition with gypsum board on merit alone (economical considerations, ease of installation and inspection, fire resistance, etc.), very difficult. Regulators and code development professionals quickly recognized the merits of gypsum board and approved its use as a fire-rated construction material in all the model codes in spite of efforts by competitive product manufacturers. State and local building codes also gave a vote of confidence to gypsum board by authorizing gypsum board products and systems in fire-rated construction. Gypsum board won the competitive struggle because of its features as an economical product that is easy to install, inspect, and provides fire ratings required by the codes.

NEGATIVE CAMPAIGNING

The masonry industry has attacked gypsum board through mailings of materials to architects and building officials, ads in the print media, and proposed building code changes especially favorable to masonry.

If designers specify block for fire walls, it is appropriate that building departments' plans checkers insist that plan specifications require that fire-resistive block be manufactured according to the appropriate standard(s) and certified by an independent organization.

For fire-rated construction materials, building inspectors should request valid proof or verification from an approved independent testing and certification agency listing the name of the manufacturer as well as the trade name of the material. Building departments and other public officials should remain neutral in attempts by any industry to prescribe only its products in local and state codes when such actions are clearly a bid to influence public agencies to favor a specific industry. Because public agencies and officials are fair and base their decisions on facts, they will recognize that gypsum board's real-world track record as well as its technical validation in thousands of fire tests has proven beyond any doubt that gypsum board should continue to be permitted to be used in fire-resistance rated applications. This feature, coupled with its record as an economical material that installs and inspects easier and its validated performance, makes gypsum board the material of choice for fire-rated construction in any community.

CONCLUSIONS ABOUT MASONRY UNITS

- all are not created equal
- all are not manufactured to identical standards
- all do not perform the same
- some may have neither independent certification or official fire rating
- not all are fire-resistance rated
- not all will meet provisions of building codes for fire-resistive construction.

Just as any other building material used in fire-resistive construction, masonry units must be identified to the satisfaction of the code official having jurisdiction as being suitable for use in fire-rated systems.

Gypsum Board – The fire-rated building material of choice because of its proven performance, independent third-party inspection/quality control, and economic benefits.

fire performance

independent labeling

laboratory listings