LEGACY REPORT

ER-1352

Issued January 1, 1992

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Legacy report on the 1991 *Uniform Building Code*™

DIVISION: 09—FINISHES
Section: 09250—Gypsum Board

GOLD BOND GYPSUM WALLBOARD—WOOD FRAMING

GOLD BOND BUILDING PRODUCTS,
A NATIONAL GYPSUM DIVISION
1650 MILITARY ROAD
BUFFALO, NEW YORK 14217-1198

1.0 SUBJECT

Gold Bond Gypsum Wallboard—Wood Framing.

2.0 DESCRIPTION

2.1 General:

Gold Bond gypsum wallboards are composed of gypsum, noncombustible fiber, mineral aggregate and paper surfaces. Wallboards having a vinyl surfacing factory applied over the paper facing are denoted by the addition of the word "Durasan" to the product designation. Wallboards having a designation which includes the words Fire-Shield or Fire-Shield G have a Type X core. The following products having a thickness of $^1/_2$- or $^5/_8$-inch are noncombustible and have a Class I flame-spread rating and smoke development not exceeding 450:

1. Gold Bond gypsum wallboard.
2. Gold Bond Durasan gypsum wallboard.
3. Gold Bond Fire-Shield gypsum wallboard.
4. Gold Bond Fire-Shield Durasan gypsum wallboard.
5. Gold Bond Fire-Shield G gypsum wallboard.
6. Gold Bond Fire-Shield G Durasan gypsum wallboard.

2.2 One-hour Fire-resistive Bearing Wall Construction (24-inch Stud Spacing):

Gold Bond $^5/_8$-inch Fire-Shield or $^5/_8$-inch Fire-Shield Durasan gypsum wallboard is applied vertically to each face of 2-inch-by-4-inch studs spaced not more than 24 inches on center. Blocking is installed at midheight of walls when required under Section 2516 (f) of the *Uniform Building Code* and the wallboard is attached to all studs with 6d cooler or box nails spaced 7 inches on center or is so attached along vertical edges only and to intermediate studs with a $^3/_8$-inch-diameter bead of Gold Bond MC (modified contact) adhesive. Joints of paper-surfaced wallboard are covered with joint tape and joint compound. Fire-Shield Durasan joints may be left exposed. The allowable bearing loads are limited to the following maximums, whichever is more restrictive:

1. Two thousand pounds per 2 by 4 stud.
2. Design stress of 0.78 F'_c, with the maximum not greater than 78 percent of the calculated stress with studs having a slenderness ratio l_e/d of 33. F'_c is as set forth in Section 2507 (c) of the code.

2.3 One-hour Fire-resistive Load-bearing Wall Assembly:

Gold Bond $^5/_8$-inch Fire-Shield G gypsum wallboard applied horizontally to each face of 2 by 4 wood studs spaced not more than 24 inches on center. Blocking is installed at midheight of walls. On one face, wallboard is attached directly to wood studs with $1^1/_4$-inch-long Type W screws spaced 12 inches on center, maximum. One the opposite face, Gold Bond No. 25 gauge galvanized steel $^1/_2$-inch-deep resilient furring channels are installed horizontally, spaced 24 inches on center and secured to each stud with one $1^1/_4$-inch-long Type W screw installed through alternative flanges of the channel on adjacent studs. See Figure 1. Wallboard is installed horizontally and secured to the horizontal furring channels and to supplementary 20-inch-long furring channels located behind vertical wallboard joints. Type S screws spaced 12 inches on center are used for attachment to the channels. Horizontal board joints on opposite wall faces may be aligned. Vertical board joints must be staggered between adjacent boards and wall faces. Unfaced mineral wool fiber blankets, 3 inches thick, having a nominal density of 3.0 pounds per cubic foot are installed in stud cavities. Board joints are reinforced with paper tape. Joints and fastener heads are treated with joint compound.

The allowable bearing loads are limited to the following, whichever is more restrictive:

1. Eighteen hundred pounds per 2 by 4 stud.
2. Design stress of 0.78F'_c, with the maximum not greater than 78 percent of the calculated stress with studs having a slenderness ratio l_e/d of 33. F'_c is as set forth in Section 2507 (c) of the code.

2.4 One-hour Fire-resistive Ceiling Construction:

A ceiling constructed with Gold Bond $^5/_8$-inch-thick Fire-Shield or Fire-Shield G gypsum wallboards, in a manner identical to that described in Assembly FC 5406 of the Gypsum Association's Fire Resistance Design Manual may be installed to any suitable wood framing, such as floor or ceiling joists, lower chords of pitched or flat roof trusses, floor trusses, etc., spaced a maximum of 24 inches on center.

The wood framing may be spaced a maximum of 48 inches on center if Gold Bond No. 25 gauge $^7/_8$-inch-deep screw-furring channels spaced a maximum of 24 inches on center

are attached to the wood with two 8d common nails having a minimum $1^1/_2$-inch penetration or two 1-inch-long Type W or Type S drywall screws per framing member and channel intersection. Two plies of wallboard are applied perpendicular to the channels and are screw attached to them as described above, using minimum lengths of 1 inch for the first ply and $1^5/_8$ inches for the second ply.

2.5 Nonrated Wall Construction:

One-half-inch and $^5/_8$-inch-thick Gold Bond gypsum wallboard or Gold Bond Durasan gypsum wallboard may be installed vertically on walls and secured to wood supports with Gold Bond Edge Grip Clips spaced 16 inches on center along the vertical edges of each panel and secured to intermediate framing with $^1/_4$-inch-diameter beads of Gold Bond MC adhesive. Edge grip clips are produced from 0.020-inch-thick SAE 1050 spring steel and are coated with a rust-resistive material. They are $1^1/_2$ inches wide with two $^3/_8$-inch-long triangular prongs raised $^5/_{16}$ inch from the plane of the clip and parallel to it. At an abutting joint the clips of the first panel are nailed to the framing; the projecting ends of the clips of the second panel are slid between the framing and the back of the first panel. At the ends or corners of partitions, panels are conventionally attached to framing with nails or screws.

2.6 Fasteners:

Unless otherwise noted, attachment for fire-resistive assemblies must comply with Table No. 43-B or 43-C of the code. As an alternate for wood-framed wall assemblies described in this report, $1^1/_4$-inch-long Type W screws installed 12 inches on center may be substituted for nails on single-layer application of Gold Bond Fire-Shield, Fire-Shield G, Fire Shield Durasan or Fire Shield G Durasan gypsum wallboard unless an assembly specifically permits wider spacing. Gypsum panels may be placed horizontally or vertically unless specific direction is noted. Unless otherwise nosed, all joints must be staggered not less than 16 inches from adjacent joints.

2.7 Identification:

The wallboard is identified by the manufacturer's name and product designation repetitively printed along one or both edges of the face side and a label authorized by Underwriters Laboratories Inc., or Factory Mutual Research Corporation. Gold Bond resilient-furring channels are identified by their unique shape. See Figure 1.

3.0 EVIDENCE SUBMITTED

Fire tests covering both wall and floor systems.

4.0 FINDINGS

That the type of construction described in this report complies with the 1991 *Uniform Building Code*™ provided the assemblies are designed and constructed in accordance with this report and the code.

This report is subject to re-examination in one year.

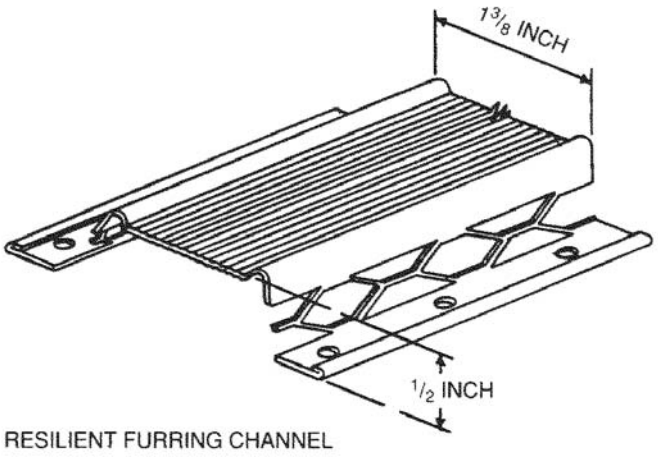

FIGURE 1