NYC Department of Buildings
280 Broadway, New York, NY 10007
Patricia Lancaster, FAIA, Commissioner
(212) 566-5000, TTY: (212) 566-4769

Report of Materials and Equipment Acceptance Division

Pursuant to Administrative Code Section 27-131, the following equipment or material has been found acceptable for use subject to the terms and conditions contained herein.

MEA 80-98-M Vol. 3

Manufacturer:	United States Gypsum Company, 125 S. Franklin St., Chicago, IL 60606
Trade Name(s):	SHEETROCK brand FIRECODE Core gypsum panels (UL Type SCX) or SHEETROCK brand HUMITEK FIRECODE Core gypsum panels (UL Type SCX), SHEETROCK® Mold Tough™ Firecode® Core Gypsum Panel (UL Type SCX)
Product:	Fire-rated gypsum panel wall assemblies
Pertinent Code Section(s):	27-131, 27-323
Prescribed Test(s):	RS 5-2 (ASTM E119)
Laboratory:	Underwriters Laboratories Inc.
Test Report(s):	UL Design U423, U424, and UL R1319, and UL R4615/03NK09827 dated March 7, 2003.

Description: Load bearing wall 1, 1 ½, 2, in 45 minutes design U423 and U424 as follows:

Design No. U424
(Exposed to Fire on Interior Face Only)
Bearing Wall Ratings — 45 min, 1, 1-1/2 or 2 Hr (See Item 4)

1. Floor and Ceiling Runners — (Not shown) — Channel shaped, fabricated from minimum 0.0329 in. thick, bare metal thickness (No. 20 MSG) corrosion-protected steel, that provide a sound structural connection between steel studs and adjacent assemblies such as floors, ceilings and/or other walls. Attached to floor and ceiling assemblies with steel fasteners spaced not greater than 24 in. OC.

2. Steel Studs — Min 0.0329 in. thick, bare metal thickness (No. 20 MSG) corrosion-protected steel studs, min 3-1/2 in. wide, cold formed, designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute (AISI). All design details enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing shall not exceed 24 in. OC. (16 in. OC when Item 7B is used). Studs attached to floor and ceiling runners with 1/2 in. long Type S-12 steel screws on both sides of the studs or by welded or bolted connections designed in accordance with the AISI specifications.

3. Lateral Support Members — (Not shown) — Where required for lateral support of studs, support shall be provided by means of steel straps, channels or other similar means as specified in the design of a particular steel stud wall system.

4. Gypsum Board* — Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs staggered a min of 12 in. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. When used in widths other than 48 in., gypsum panels to be installed horizontally. The thickness and number of layers and percent of design load for the 45 min, 1 hr, 1-1/2 hr, and 2 hr ratings are as follows:

Wallboard Protection on Interior Side of Wall

Rating	No. of Layers & Thickness of Panel	% of Design Load
45 Min	1 layer, 5/8 in. thick	100
1 hr	2 layers, 1/2 in. thick	100
1-1/2 hr	2 layers, 5/8 in. thick	100
2 hr	3 layers, 1/2 in. thick	100
2 hr	2 layers, 3/4 in. thick	100

***CANADIAN GYPSUM COMPANY** — 1/2 in. thick Type AR, C, IP-AR, IP-X2, IPC-AR, or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX or WRC; 3/4 in. thick Types AR, IP-AR, IP-X3, ULTRACODE

***UNITED STATES GYPSUM CO** — 1/2 in. thick Type AR, C, IP-AR IP-X2, IPC-AR, or WRC ; 5/8 in. thick Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX or WRC; 3/4 in. thick Types AR, IP-AR, IP-X3, ULTRACODE

5**.** Fasteners — (Not shown) — Type S-12 steel screws used to attach panels to runners (Item 1) and studs (Item 2) or furring channels (Item 7). **Single layer systems:** 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally or 12 in. OC when panels are applied vertically. **Two layer systems:** First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer. **Three-layer systems:** First layer- 1 in. long for 1/2 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

6. Building Paper — (Not shown) — No. 15 asphalt felt or equivalent as required.

7. Gypsum Sheathing — For exterior walls, 1/2 or 5/8 in. thick exterior regular gypsum sheathing applied vertically or horizontally, attached to studs and runners with 1 in. long Type S12 steel screws spaced 12 in. OC along studs and runners. One of the following exterior facings shall be applied over the gypsum sheathing.

A. Siding, Brick or Stucco — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies. When a min 3-3/4 in. thick brick veneer facing is used, the rating is applicable for exposure on either side. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.

B. Cementitious Backer Units***** — 1/2 or 5/8 in. thick panels, attached to steel studs over gypsum sheathing with 1-5/8 in. long, Type S-12, corrosion resistant, wafer-head steel screws, spaced 8 in. OC. Studs spaced a max of 16 in. OC. Joints covered with glass fiber mesh tape.

***UNITED STATES GYPSUM CO** — Durock Exterior Cement Board or Durock Brand Cement Board.

C. Foamed Plastic***** — Aged expanded polystyrene (EPS) board per ASTM C578, with a nom density not less than 1 pcf, R-value 3.8 min per in. with a flame spread of less than 25 and a smoke developed of less than 450, adhered to the gypsum sheathing (Item 7) or to the cementitious backer units (Item 7B) with USG Exterior Insulation Board Adhesive. See **Foamed Plastic (BRYX and/or CCVW) Categories** for names of Classified companies.

D. Wall and Partition Facings and Accessories***** — Min 3/32 in. thick, applied over the gypsum sheathing (Item 7) or the cementitious backer units (Item 7B) or the insulation board (Item 7C), to embed an open-weave fiberglass mesh (mesh weighing not less than 4.5 oz per sq yd, treated for alkaline resistance). Instructions provided with the product shall be consulted regarding limitations on the use of the product.

***UNITED STATES GYPSUM CO** — USG Exterior Basecoat

E. Wall and Partition Facings and Accessories***** — Min 1/16 in. thick, applied over basecoat (Item 7D). Instructions provided with the product shall be consulted regarding limitations on the use of the product.

***UNITED STATES GYPSUM CO** — USG Exterior Textured Finish or USG Exterior Stone Finish

8. Furring Channels — (Optional, not shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Type FRX gypsum panels.

9. Batts and Blankets***** — (Optional, not shown) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. **See Batts and Blankets (BKNV and/or BZJZ) Categories** for names of Classified companies.

10. Joint Tape and Compound — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of interior face layer. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of interior face layer. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges.

11. Caulking and Sealants***** — (Optional, not shown) — A bead of acoustical sealant applied around the partition perimeter on interior side for sound control.

***UNITED STATES GYPSUM CO** — Type AS

Terms and Conditions: The above-described load-bearing fire-rated wall assembly is accepted under the following conditions:

1. Structural requirements shall comply with Subchapter 10, Reference Standard RS 10-3 and other applicable provisions of the New York City Building Code.

2. The acceptance of this assembly is limited to fire resistance only. Structural and other requirements shall be in accordance with pertinent Building Code, Laboratories' listing and manufacturer's requirements.

3. All shipments and deliveries of such equipment shall be provided with print marking on the equipment, suitably placed, certifying that the equipment shipped or delivered is equivalent to that tested and acceptable for use, as provided in Section 27-131 of the New York City Building Code.

NOTE: In accordance with Section 27-131(d), all materials tested and accepted for use shall be subject to periodic retesting as determined by the Commissioner; and any material which upon retesting is found not to comply with Code requirements or the requirements set forth in the approval of the Commissioner shall cease to be acceptable for the use intended. During the period for such retesting, the Commissioner may require the use of such material to be restricted or discontinued if necessary to secure safety.

Final Acceptance April 23, 2007

Examined By Sian Derkhodam