

ICC Evaluation Service, Inc.
www.icc-es.org

Business/Regional Office ■ 5360 Workman Mill Road, Whittier, California 90601 ■ (562) 699-0543
Regional Office ■ 900 Montclair Road, Suite A, Birmingham, Alabama 35213 ■ (205) 599-9800
Regional Office ■ 4051 West Flossmoor Road, Country Club Hills, Illinois 60478 ■ (708) 799-2305

DIVISION: 07—THERMAL AND MOISTURE PROTECTION
Section: 07430—Composite Panels

DIVISION: 09—FINISHES
Section: 09110—Nonload-bearing Wall Framing

REPORT HOLDER:

TRITER CORPORATION
301 WEST MAIN STREET
RADFORD, VIRGINIA 24141
(540) 731-3774
www.triter.com

EVALUATION SUBJECT:

TRITERINE CERAMIC FIRE RESISTANCE PANELS

1.0 EVALUATION SCOPE

Compliance with the following codes:

2006 *International Building Code*® (IBC)

Properties evaluated:

Fire resistance

2.0 USES

Triterine ceramic fire resistance panels are used in nonload-bearing partition walls and as egress wall enclosures.

3.0 DESCRIPTION

The Triterine ceramic fire resistance panel consists of a proprietary ceramic block, steel corner angles, steel splines and steel attachment plates installed in No. 24 gage metal tracks (top and bottom) to form an integral panel unit. The rectangular-shaped panels are constructed in 16-inch (406 mm) widths and are available in 3¹/₂-inch and 5¹/₂-inch (89 mm and 140 mm) thicknesses. The vertical edges of the 3¹/₂-inch-thick (89 mm) panel are fitted with 1-inch-by-2-inch (25 mm by 51 mm), No. 24 gage steel corner angles, and the vertical edges of the 5¹/₂-inch-thick (140 mm) panel are fitted with 1¹/₂-inch-by-1¹/₂-inch (38 mm by 38 mm), No. 24 gage steel corner angles to form an integral panel unit. The panels are attached with splines and cover plates (in accordance with Section 4.1 of this report). The panels are used in nonload-bearing wall assemblies. The steel used in the wall panels and track metal shall conform to ASTM 653, SS Grade 33, is galvanized, and is supplied by the Triter Corporation. The galvanizing (coating weight G60) of the steel shall conform to ASTM A653/A653M. When used in fire-resistance construction, the panels shall be covered at the jobsite with double layers of gypsum wallboard secured to attachment plates.

4.0 INSTALLATION

4.1 General:

The system components are standard rectangular 16-inch-wide-by-3¹/₂-inch-thick (406 mm by 89 mm) or 16-inch-wide-by-5¹/₂-inch-thick (406 mm by 140 mm) Triterine panel blocks, bottom U-track channels, 1¹/₂-inch-by-1¹/₂-inch (38 mm by 38 mm) top track (two pieces), 2-inch (51 mm) splines and 3-inch (76 mm) attachment plates. The bottom U-track shall be anchored to the subfloor structural member. The fastening schedule for the anchoring of the bottom U-tracks to the building structural supports shall be designed by a registered design professional, approved by Triter Corporation, and installed in accordance with the sealed shop drawings. The top track shall be attached to the building support structure above in accordance with the design and shop drawings prepared by the Triter Corporation. Panels shall be placed in the U-tracks, and top tracks shall be plumb and true. The 2-inch (51 mm) insert splines shall be inserted into the double notches provided along the leading vertical edge of the wall panels to connect consecutive panel sections and secure them to each other. There shall be no gap between panels, and splines shall be set in the notches of each panel. As panels are aligned along the bottom U-track and the top track, the 5¹/₂-inch-thick (140 mm) panels are secured with 2¹/₂-inch-long (64 mm), No. 7 dry wall screws [3¹/₂-inch (89 mm) panels are secured with 1⁵/₈-inch (41 mm) steel screws] spaced 12 inch (305 mm) on center vertically through the corner angle into the splines on each side of the butt joint. The minimum offset from top and bottom of the screws for the vertical splines shall be 6 inches. Centered over this butt joint is a 3-inch (76 mm), 24 gage attachment plate. It shall be secured with 1¹/₂-inch-long (13 mm), No. 8 TEK screws spaced 12 inches (305 mm) on center vertically. The minimum offset from top and bottom shall be 3 inches (76 mm), spaced vertically so as not to interfere with panel screws. Once panels are connected together, the second piece of the top track shall be attached to the support structure above in accordance with the shop drawings. Panels are then secured to the bottom U-track and the top tracks with 1¹/₂-inch-long (13 mm), No. 8 TEK screws at each vertical corner angle of each panel, on each face of the wall. See Figures 1 and 2 for typical installation details.

4.2 Fire-resistance-rated Wall Assemblies:

4.2.1 Four-hour Fire Partition (Nonload-bearing): Wall panels are nominally 5¹/₂ inches (140 mm) thick and 16 inches (406 mm) wide, and are constructed with a proprietary block material and 1¹/₂-inch-by-1¹/₂-inch (38 mm by 38 mm), 24 gage galvalum steel angle corners as a part of the integral panel. The wall height is 10 feet (3 m). The panels are fabricated with two notches on both sides for housing the steel splines. Two galvalum steel splines are placed in the notch and the panels are joined together. The panels are placed into a 24 gage continuous steel track, top and bottom, and are secured with

2¹/₂-inch-long (64 mm) steel screws (No. 7 dry wall) spaced 12 inches (305 mm) on center vertically through the corner angle into the splines on each side of the butt joint. The minimum offset, top and bottom, of the screws for the vertical splines shall be 6 inches (152 mm). Centered over this butt joint is a 3-inch (76 mm), 24 gage attachment plate. The attachment plate is secured with ¹/₂-inch-long (13 mm), No.8 TEK screws spaced 12 inches (305 mm) on center vertically. The minimum offset shall be 3 inches (76 mm), spaced so as not to interfere with the panel screws. Gypsum wallboard shall be applied in two layers over the wall panels on both sides of the wall. The first wall layer is ⁵/₈-inch-thick (16 mm), Type X gypsum wallboard, 4 feet (1219 mm) wide, applied vertically with edges coincident with panel splice attachment plates. The wallboard shall be secured to the panel attachment with nominally 1-inch-long (25 mm), No. 8 drywall screws spaced 12 inches (305 mm) on center vertically and 8 inches on center around the perimeter, centered at each panel joint location. The second layer is ¹/₂-inch-thick standard gypsum wallboard, 4 feet wide (1219 mm), applied horizontally with ends coincident with panel splice attachment plates. The wallboard is secured to the panel attachment plates with nominally 1⁵/₈-inch-long, No. 6 drywall screws spaced 12 inches (305 mm) on center vertically along the attachment plates and 8 inches on center around the perimeter. All joints and interior angles shall have tape embedded in joint compound and one additional coat of joint compound applied over all joints and interior angles. Fastener heads and accessories shall be covered with two separate coats of joint compound.

4.2.2 Three-hour Fire Partition (Nonload-bearing): Wall panels are nominally 3¹/₂ inches (89 mm) thick (89 mm) and 16 inches (406 mm) wide, and are constructed with proprietary core material and 1-inch-by-2-inch (25 mm by 51 mm), 24 gage galvalum steel angle corners as part of the integral panel. The wall height is 10 feet (3 m). The panels are fabricated with two notches on both sides for housing the steel splines. Two galvalum steel splines are placed in the notch and the panels are joined together. The panels are placed into a 24 gage continuous steel track, top and bottom, and are secured with 1⁵/₈-inch-long (41 mm) steel screws spaced 12 inches (305 mm) on center vertically through the corner angle into the splines on each side of butt joint. The minimum offset, top and bottom, of the screws for the vertical splines shall be 6 inches (152 mm). Centered over this butt joint is a 3-inch (76 mm), 24 gage attachment plate. The attachment plate is secured with ¹/₂-inch-long (13 mm), No. 8 TEK screws spaced 12 inches (305 mm) on center vertically. The minimum offset shall be 3 inches (76 mm), spaced so as not to interfere with the panel screws. Gypsum wallboard is applied in two layers over the wall panels on both sides. The first layer is ⁵/₈-inch-thick (16 mm), Type X gypsum wallboard, 4 feet (1219 mm) wide, applied vertically with edges coincident with panel splice attachment plates. The wallboard is secured to the panel attachment plates with 1-inch-long, No. 8 drywall screws spaced 12 inches (305 mm) on center vertically along the attachment plates and 8 inches (203 mm) on center around the perimeter. The wallboard is to be mounted to the wall with a ¹/₈-inch-wide space between adjacent gypsum wallboard panels. The ¹/₈-inch (3 mm) gap space is to be filled with gypsum setting compound. The second layer is ¹/₂-inch-thick (13 mm) standard gypsum wallboard, 4 feet (1219 mm) wide, applied horizontally with ends coincident with panel

attachment plates. The wallboard is secured to the panel attachment plates with nominally 1⁵/₈-inch-long (41 mm), No. 6 drywall screws spaced 8 inches (203 mm) on center around the perimeter and 12 inches (305 mm) on center in the field. The wallboard shall be mounted to the wall with a ¹/₈-inch-wide (3 mm) space between adjacent gypsum wallboard panels. The ¹/₈-inch (3 mm) gap space is to be filled with gypsum setting compound. All joints and interior angles shall have tape embedded in joint compound; two separate coats of joint compound shall be applied over all flat joints, and one separate coat of joint compound shall be applied over interior angles. Fastener heads and accessories shall be covered with three separate coats of joint compound. All joints shall be smooth and free of tool marks and ridges.

5.0 CONDITIONS OF USE

The Triterine Ceramic Fire Resistance Panels described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The use of the panels in load-bearing interior and in exterior walls is outside the scope of this report.
- 5.2 Triterine wall panels, when constructed in accordance with Sections 4.2.1 and 4.2.2 of this report, are permitted for use in Type I, II, III or IV construction (IBC); noncombustible construction (UBC); Type 1, 2, 3 or 4 (BNBC); and Type I, II, III or IV (SBC). The facing material shall also be noncombustible.
- 5.3 Panel erection is in accordance with this report and the manufacturer's published installation instructions and shop drawings, copies of which shall be available to the code official at the jobsite during construction.
- 5.4 Design calculations for attachment of top and bottom track fasteners to the structural members shall be submitted to the code official for each project. The calculations shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.
- 5.5 The panels shall be stored indoors and protected from weather at all times.
- 5.6 The panels shall not be field-modified without written permission from Triter Corporation.
- 5.7 The panels are fabricated by Triter Corporation at their facility located in Radford, Virginia, under a quality control program with inspections by Intertek Testing Services NA, Inc. (AA-657).

6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with ICC-ES Acceptance Criteria for Ceramic Fire Partitions (AC253), dated June 2004.
- 6.2 A quality control manual.

7.0 IDENTIFICATION

The panels and steel hardware shall be identified on the packaging with the Triter Corporation name and address, the product name, the evaluation report number (ESR-1021), installation instructions and the name of the inspection agency (Intertek Testing Services NA, Inc.).

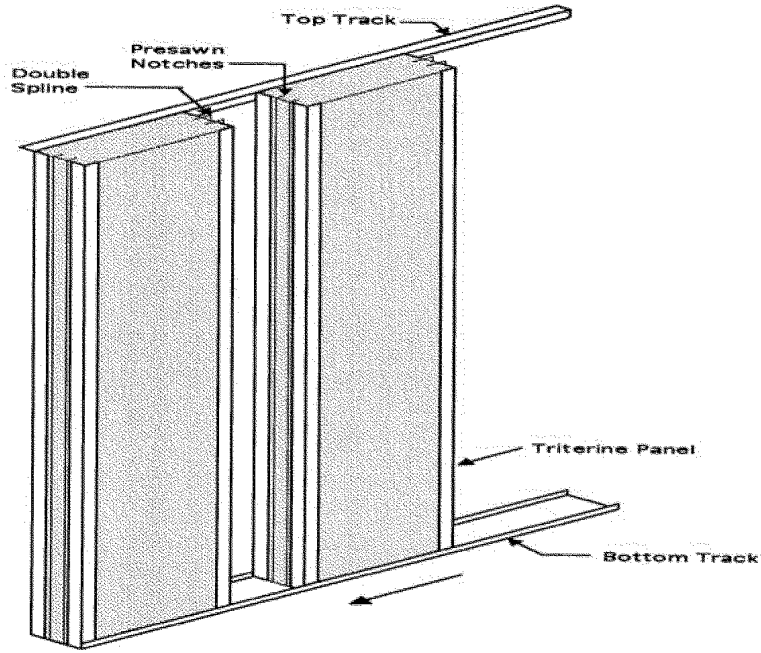


FIGURE 1

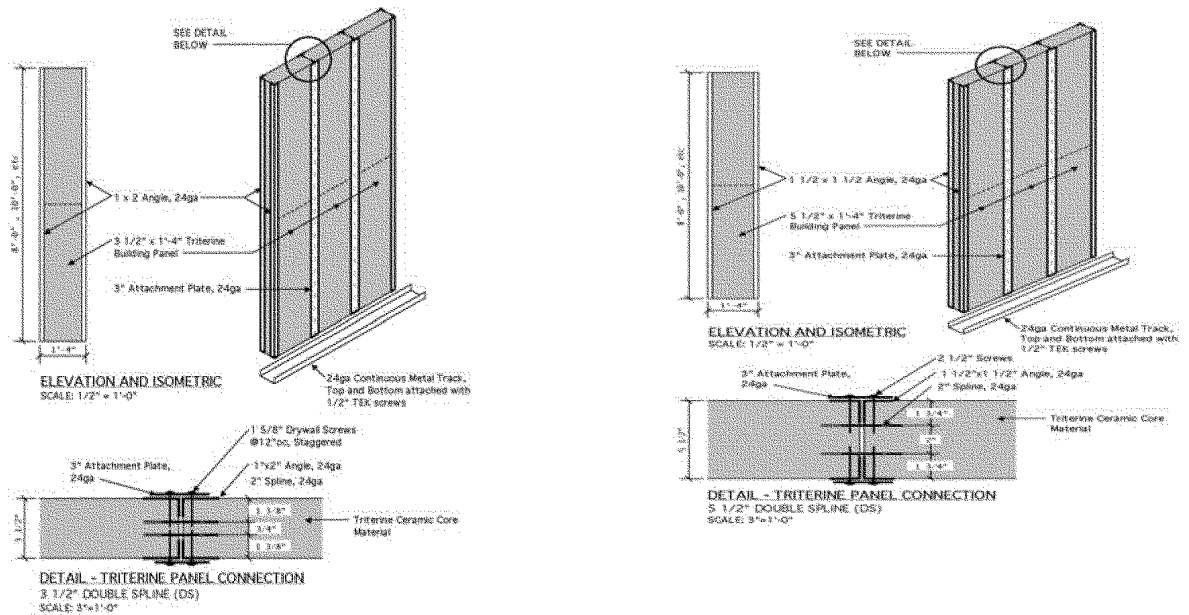


FIGURE 2