

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: 05—METALS

Section: 05400—Cold Formed Metal Framing

DIVISION: 07—THERMAL AND MOISTURE PROTECTION

Section: 07840—Firestopping

DIVISION: 09—FINISHES

Section: 09110—Non-Load Bearing Wall Framing

REPORT HOLDER:

CALIFORNIA EXPANDED METAL PRODUCTS COMPANY
263 NORTH COVINA LANE
CITY OF INDUSTRY, CALIFORNIA 91746
(800) 775-2362
www.cemcosteel.com

EVALUATION SUBJECT:**CEMCO SLOTTED STEEL TRACKS EXPANSION JOINT SYSTEM AND FIRESTIK™ FOR INTERIOR PARTITIONS****1.0 EVALUATION SCOPE****Compliance with the following code:**2003 *International Building Code*® (IBC)**Properties evaluated:**

- Structural
- Fire resistance

2.0 USES**2.1 CEMCO Slotted Track (CST):**

The CST is a top track that is recognized for use in interior, one- and two-hour fire-resistance-rated, nonload-bearing, light-gage steel framed wall assemblies, as described in this report, forming a fire-resistive joint at the top of the wall capable of accommodating vertical movement of the building caused by thermal, seismic, wind or other loads. For fire-resistance-rated construction, the CST shall be used in assemblies as described in Section 4.2 of this report.

2.2 CEMCO Slotted Track (CST) Expansion Joint System:

The CST expansion joint system provides positive attachment of wall studs to slotted-top track in fire-resistance-rated joints designed to accommodate vertical movement, in compliance with Section 713.2 of the IBC. The CST, when installed in accordance with Figures 3 through 6, is designed for an allowable total vertical movement of 1 inch ($\pm 1/2$ inch) [25.4 mm (± 12.7 mm)].

3.0 DESCRIPTION**3.1 General:**

The CEMCO slotted track joint system consists of the CST, and either FireStik™, CEMCO Mesh angle or continuous steel angle.

3.2 Components:

3.2.1 CEMCO Slotted Track: The CST sections are U-shaped channel sections with slotted flanges formed from cold-formed sheet steel. The CST sections are cold-formed with widths of 2 $1/2$, 3 $5/8$, 4, 6, and 8 inches (63.5, 92, 102, 152 and 203 mm). The sections are cold-formed from steel having design thicknesses of 0.0188, 0.0346, 0.0451 and 0.0566 inch [0.48, 0.88, 1.15 or 1.44 mm (No. 18, 30, 43, and 54 mils)]. The section track legs (flanges) are 2 $1/2$ inches (63.5 mm) in length, and have 1/4-inch-wide-by-1 $1/2$ -inch-long (6.4 mm by 38 mm) vertical slots spaced 1 inch (25.4 mm) on center along the length of the section. Figure 1 provides details of the CST sections.

The CST section properties shown in Table 1 are based on Section 2210 of the IBC. The minimum base-metal thickness of the steel delivered to the jobsite must be 95 percent of the design thickness. The design of the steel studs and attachment of the CST track to the structure are outside the scope of this report and must be approved by the code official.

The CEMCO CST sections are formed from 0.0566-inch-thick [1.44 mm (16 gage)] steel complying with ASTM A 653 SS, Grade 50, Class 3, and have a 50,000 psi (345 MPa) minimum yield strength. Sections cold-formed from steel design thicknesses of 0.0188, 0.0346 or 0.0451 inch [0.478, 0.878 or 1.145 mm (No. 25, 20 or 18 gage)] comply with ASTM A 653 CS, Grade 33, Type C, having a 33,000 psi (228 MPa) minimum yield strength. The No. 25 and No. 20 gage steel sections have a G40 galvanized coating, while No. 18 and 16 gage steel sections have G60 galvanized coatings.

3.2.2 Continuous Steel Angle and CEMCO Mesh Angle:

The continuous steel angle used in CST expansion joint systems 1, 2, 6 and 8 is either a 1 $1/2$ -by-1 $1/2$ -inch (38 by 38 mm) angle or the CEMCO Mesh angle, which is 1 $1/2$ -by-2 $3/4$ -inch (38 by 70 mm), No. 25 gage [0.0188 inch (0.05 mm)], hot-dipped galvanized steel complying with ASTM A 653 SS, Grade 33.

3.2.3 FireStik™: The CEMCO FireStik™ is a 1 $1/2$ -by-1.4-inch (38.1 by 35.6 mm), No. 20 gage [0.030 inch (0.762 mm)] galvanized steel angle complying with ASTM A 653 SS, Grade 33.

3.2.4 Gypsum: The 5/8-inch-thick (15.9 mm), Type X gypsum board must comply with ASTM C 36.

3.2.5 Fire Protection Material: The fire-protection material used must be Monokote MK-6, manufactured by W.R. Grace Company (ER-4607); CAFCO Blaze Shield II, manufactured by Isolatek International (ER-1244); the Rectorseal Company Intumescent BlazeSeal strip adhered to the FireStik™ (as shown in Figure 2); or mineral fiber rockwool insulation with a density of 4 pcf (64 kg/m³), complying with ASTM C 665. Non-solvent-based caulking compounds must be minimum 1/2-inch-thick (12.7 mm) acoustical sealant complying with ASTM C 834, ASTM C 570 or ASTM C 1184.

3.2.6 Fasteners: The tops of the studs are attached to the CEMCO slotted track using minimum No. 8 by 9/16-inch-long (14.3 mm), wafer-head, self-tapping steel screws complying with ASTM C 1002.

4.0 INSTALLATION

4.1 CST Expansion Joint System:

The attachment of the CST track to the studs is accomplished by using minimum No. 8 by 9/16-inch-long (14.3 mm), wafer-head screws as shown in Figures 3 through 6. The screws must be installed into each side of the CST through the center of the slots designed for upward and downward movement, without affecting the positive attachment of the stud framing members. The fasteners must penetrate the stud section a minimum of three threads. The vertical leg of the 1 1/2-inch-by-1 1/2-inch (38 mm by 38 mm) or 1 1/2-by-2 3/4-inch (38 by 70 mm) steel angle, Mesh angle, or FireStik must be in contact with the surface of the gypsum wallboard, and the horizontal leg must be attached to the structural assembly above the wall using minimum No. 6 by 1 1/8-inch-long (28.6 mm) drywall screws. There shall be no attachment through the slotted track that will impair movement.

4.2 Fire-resistance-rated Construction:

The CST expansion joint system used in fire-resistance-rated wall assemblies shall be limited to assemblies in Table 720.1 (2) of the IBC, and consist of No. 25 gage [0.018 inch (0.457 mm) base-metal thickness], minimum 3 1/2-inch-deep (88.9 mm) steel framing and 5/8-inch-thick (15.9 mm), Type X, gypsum board. The fire-resistance rating of the wall assembly is maintained when the CST expansion joint system is installed in accordance with Figures 3 through 6 of this report and is approved by the code official. The fire-protection materials of either Monokote MK-6 or CAFCO Blaze-Shield II must be used and installed in accordance with the ICC-ES evaluation reports for, respectively, W.R. Grace & Company (ER-4607) or Isolatek International (ER-1244). Alternative fire-resistance-rated construction with the CST track may be maintained when the FireStik™ with the adhered intumescent material shown in Figure 2, and mineral fiber rockwool insulation, are installed in accordance with Systems 1 and 2. See Figures 3 and 4.

5.0 CONDITIONS OF USE

The CEMCO Slotted Track (CST) expansion joint system described in this report complies with, or is a suitable alternative to what is specified in, the code noted in Section 1.0 of this report, subject to the following conditions:

- 5.1 The CST tracks, FireStik™ and Mesh angle must be installed and identified in accordance with this report, the applicable code and the manufacturer's published installation instructions. In the event of a conflict between this report and the manufacturer's published installation instructions, this report shall govern.
- 5.2 Fire-resistance-rated wall assemblies incorporating the CST are limited to the assemblies described in Figures 3 through 6 of this report.
- 5.3 Complete plans, details and calculations for each project, verifying compliance with this report, must be submitted to the code official for approval. The calculations must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.
- 5.4 The minimum uncoated steel thickness of cold-formed members, as delivered to the jobsite, must be at least 95 percent of the designed base-metal thickness as specified in this report.

6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with the ICC-ES Acceptance Criteria for Steel Studs, Joists and Tracks (AC46), dated November 2004
- 6.2 Test reports in accordance with UL 2079.

7.0 IDENTIFICATION

Each CEMCO slotted track section is identified with the name "CEMCO Slotted Track" or "CST," the minimum base steel thickness, the minimum yield strength (if over 33 ksi) and the evaluation report number (ICC-ES ESR-2012). In addition, each pallet of track is identified with the CEMCO company name and the section designation in accordance with the Section 2203.1 of the IBC.

The FireStik™ is identified with the name CEMCO, the product name "FireStik," a UL and WHI label, and the evaluation report number (ICC-ES ESR-2012).

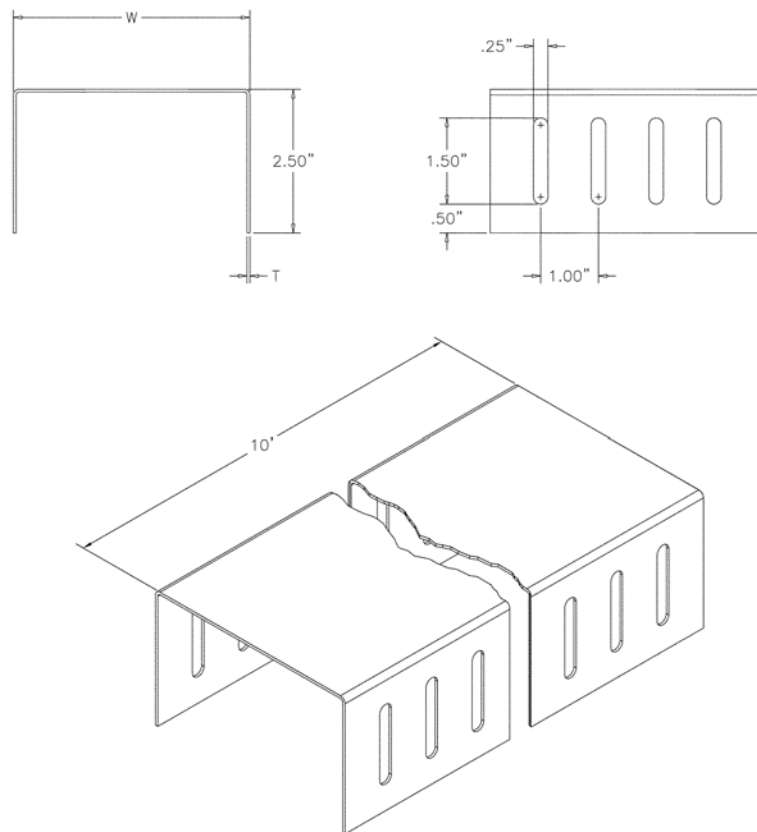
The CEMCO Mesh angle is identified with the CEMCO company name, the product name and the evaluation report number (ICC-ES ESR-2012).

The spray-applied fireproofing materials shall be labeled in accordance with their respective evaluation reports.

TABLE 1—CEMCO SURE-SLIP TRACK STRUCTURAL PROPERTIES

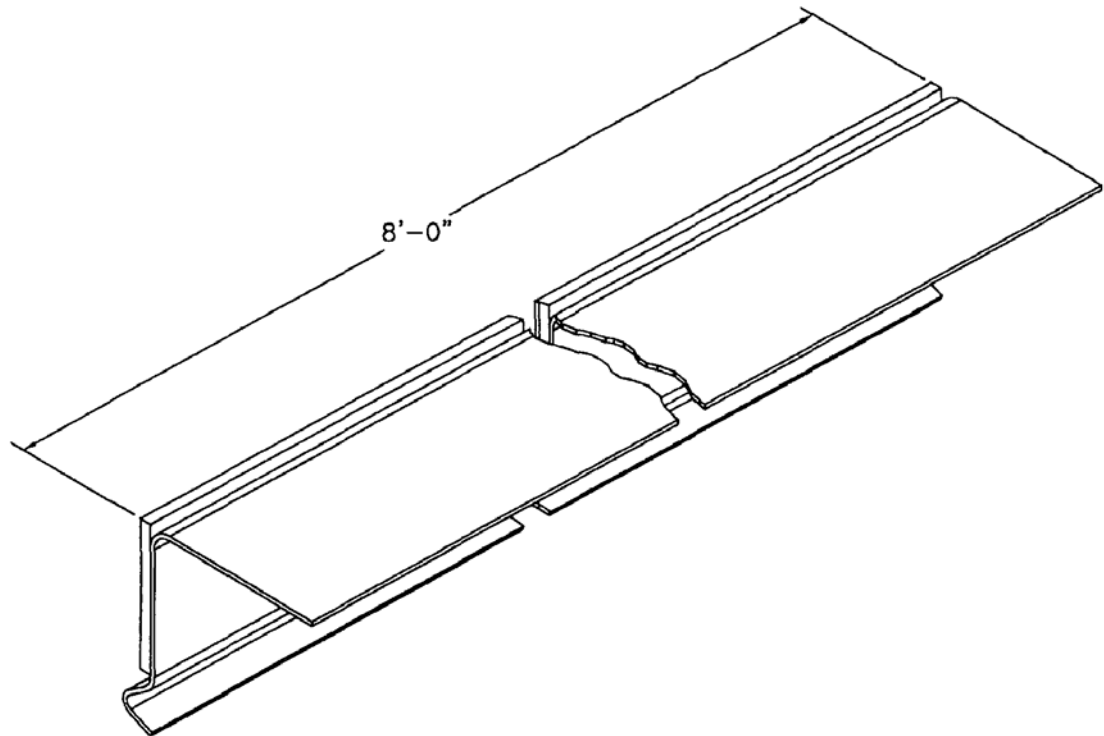
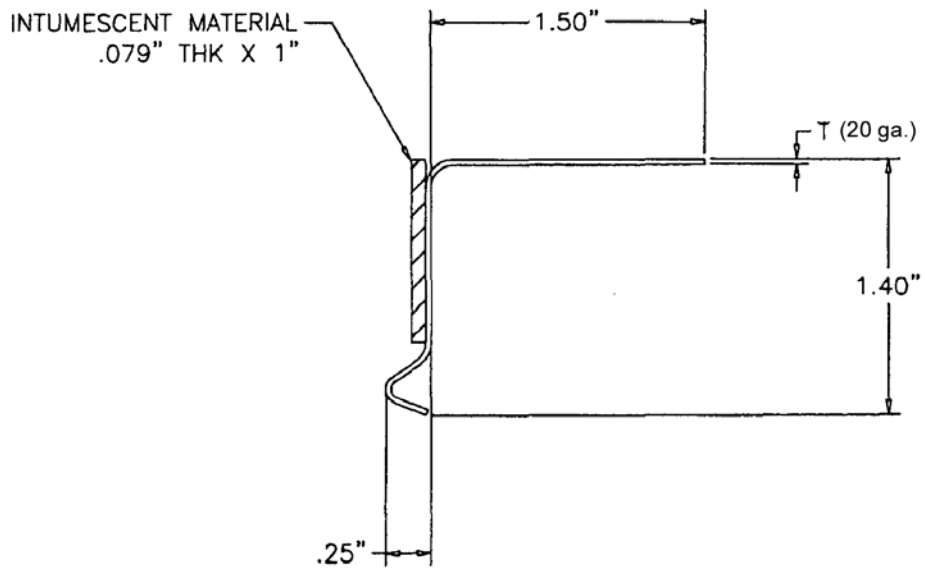
SECTION DESIGNATION	DESIGN THICKNESS (inch)	GROSS SECTION PROPERTIES							EFFECTIVE SECTION PROPERTIES					
		F_y (ksi)	Weight (lbs/ft)	Area (in ²)	I_x (in ⁴)	r_x (in)	I_y (in ⁴)	r_y (in)	I_x (in ⁴)	S_x (t) (in ³)	S_x (b) (in ³)	I_y (in ⁴)	S_y (l) (in ³)	S_y (r) (in ³)
250CST250-18	0.0188	33	0.267	0.079	0.068	0.927	0.080	1.006	0.055	0.064	0.034	0.054	0.058	0.033
250CST250-30	0.0312	33	0.444	0.131	0.112	0.925	0.133	1.011	0.098	0.126	0.056	0.099	0.096	0.063
250CST250-43	0.0451	33	0.640	0.188	0.160	0.923	0.193	1.012	0.148	0.212	0.082	0.147	0.136	0.096
250CST250-54	0.0566	50	0.802	0.236	0.200	0.922	0.243	1.015	0.186	0.266	0.103	0.186	0.169	0.121
350CST250-18	0.0188	33	0.331	0.097	0.072	0.862	0.176	1.343	0.057	0.069	0.034	0.113	0.091	0.049
350CST250-30	0.0312	33	0.549	0.162	0.120	0.861	0.293	1.346	0.105	0.156	0.057	0.214	0.150	0.099
350CST250-43	0.0451	33	0.793	0.233	0.172	0.859	0.424	1.348	0.160	0.271	0.084	0.334	0.216	0.161
350CST250-54	0.0566	50	0.994	0.292	0.215	0.857	0.533	1.351	0.201	0.340	0.105	0.421	0.269	0.202
362CST250-18	0.0188	33	0.339	0.100	0.073	0.855	0.191	1.384	0.057	0.069	0.034	0.122	0.095	0.051
362CST250-30	0.0312	33	0.562	0.165	0.121	0.853	0.318	1.387	0.105	0.158	0.057	0.232	0.158	0.103
362CST250-43	0.0451	33	0.812	0.239	0.173	0.851	0.461	1.389	0.161	0.279	0.084	0.362	0.226	0.168
362CST250-54	0.0566	50	1.018	0.300	0.216	0.850	0.580	1.391	0.202	0.349	0.105	0.456	0.283	0.212
400CST250-18	0.0188	33	0.363	0.107	0.074	0.834	0.242	1.506	0.057	0.070	0.034	0.151	0.109	0.056
400CST250-30	0.0312	33	0.602	0.177	0.123	0.832	0.403	1.508	0.106	0.162	0.058	0.334	0.182	0.148
400CST250-43	0.0451	33	0.870	0.256	0.176	0.830	0.584	1.511	0.165	0.300	0.084	0.483	0.262	0.212
400CST250-54	0.0566	50	1.090	0.321	0.220	0.829	0.734	1.512	0.206	0.375	0.106	0.607	0.327	0.265
600CST250-18	0.0188	33	0.491	0.144	0.079	0.740	0.658	2.135	0.057	0.071	0.034	0.412	0.191	0.105
600CST250-33	0.0346	33	0.903	0.266	0.145	0.738	1.212	2.136	0.123	0.209	0.064	0.973	0.364	0.284
600CST250-43	0.0451	33	1.176	0.346	0.188	0.737	1.581	2.137	0.170	0.342	0.085	1.365	0.481	0.416
600CST250-54	0.0566	50	1.475	0.434	0.235	0.735	1.985	2.139	0.213	0.431	0.106	1.713	0.601	0.520
800CST250-18	0.0188	33	0.619	0.182	0.082	0.671	1.370	2.743	0.058	0.072	0.034	0.764	0.291	0.140
800CST250-33	0.0346	33	1.138	0.335	0.150	0.669	2.521	2.744	0.124	0.215	0.065	1.792	0.557	0.367
800CST250-43	0.0451	33	1.483	0.436	0.195	0.668	3.286	2.745	0.172	0.362	0.085	2.688	0.742	0.597
800CST250-54	0.0566	50	1.860	0.547	0.243	0.666	4.124	2.746	0.216	0.457	0.107	3.415	0.931	0.763

For SI: 1 inch = 25.4 mm, 1 ksi = 6.8948 kPa, 1 lb/ft = 14.594 N/m.



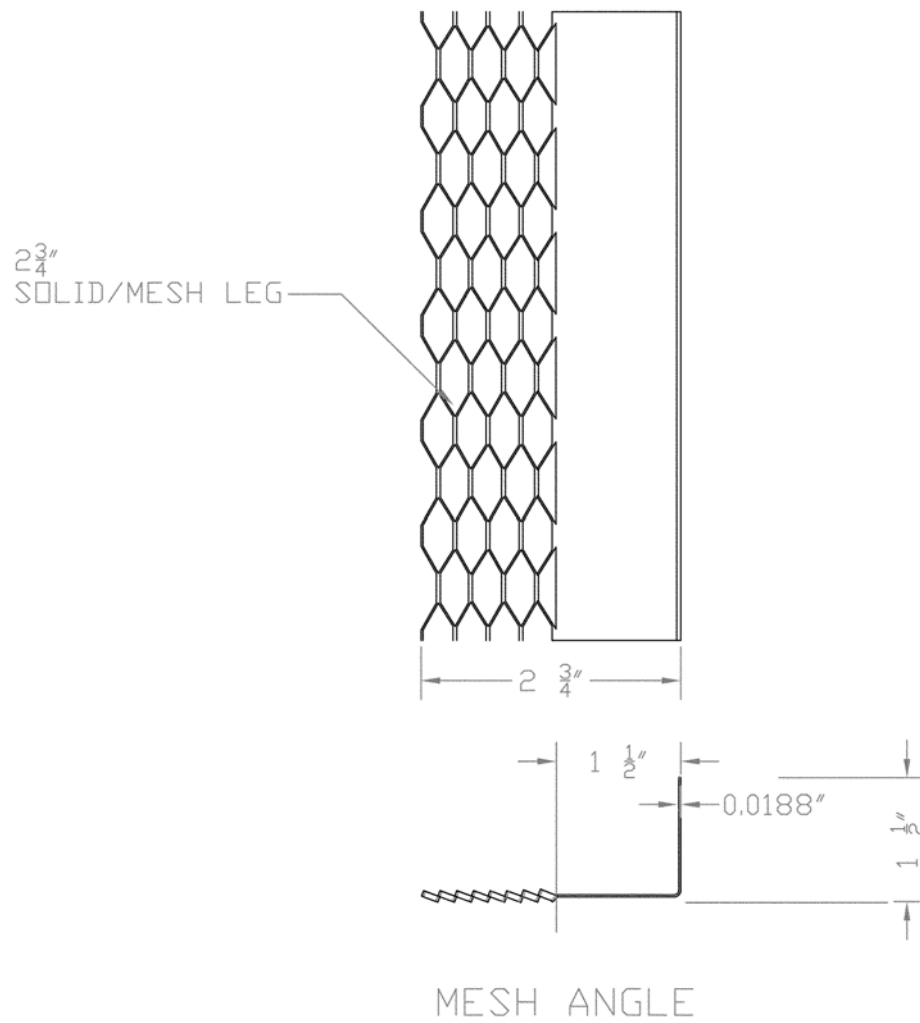
For SI: 1 inch = 25.4 mm.

FIGURE 1



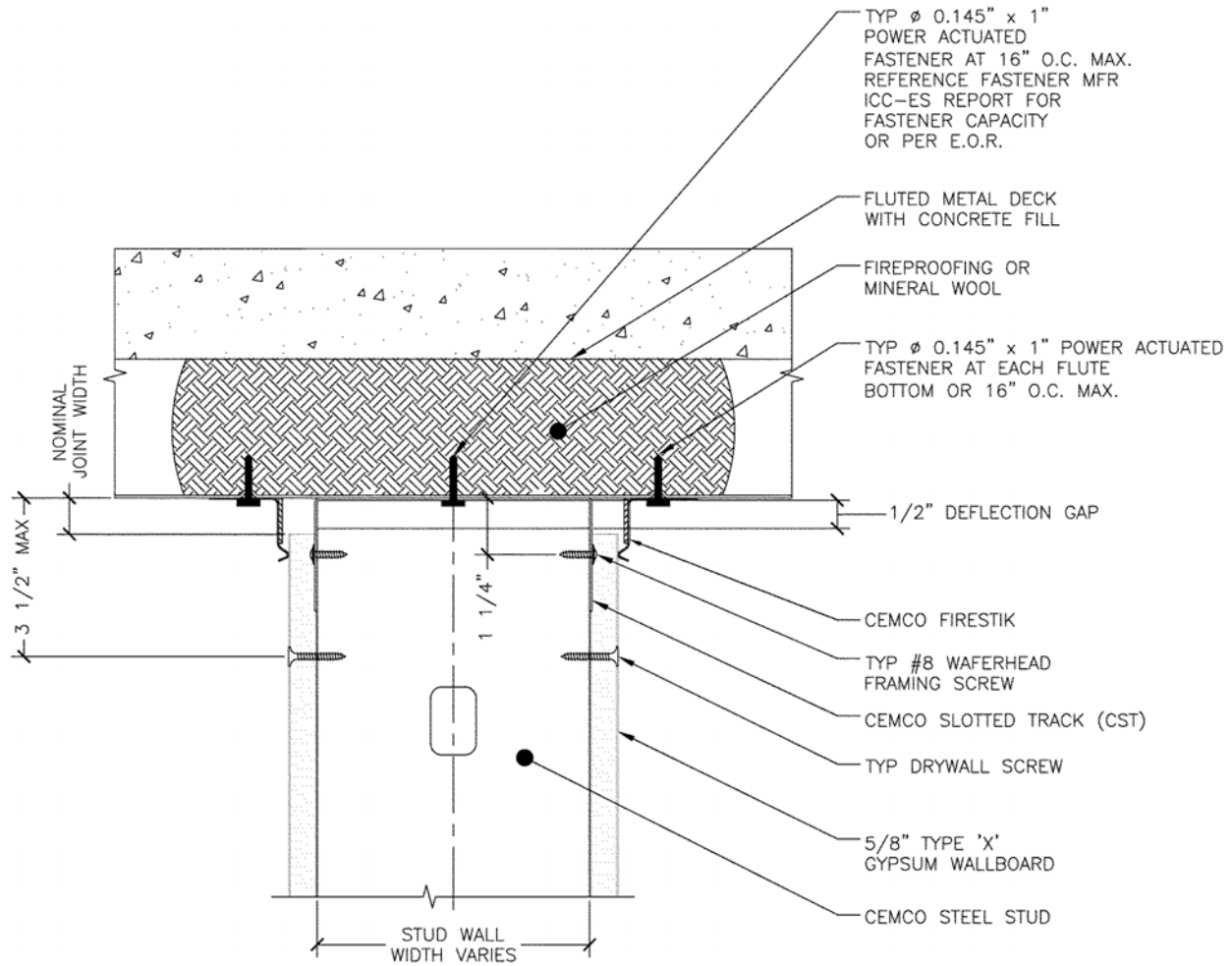
For SI: 1 inch = 25.4 mm.

FIGURE 2



For SI: 1 inch = 25.4 mm.

FIGURE 2 (Continued)

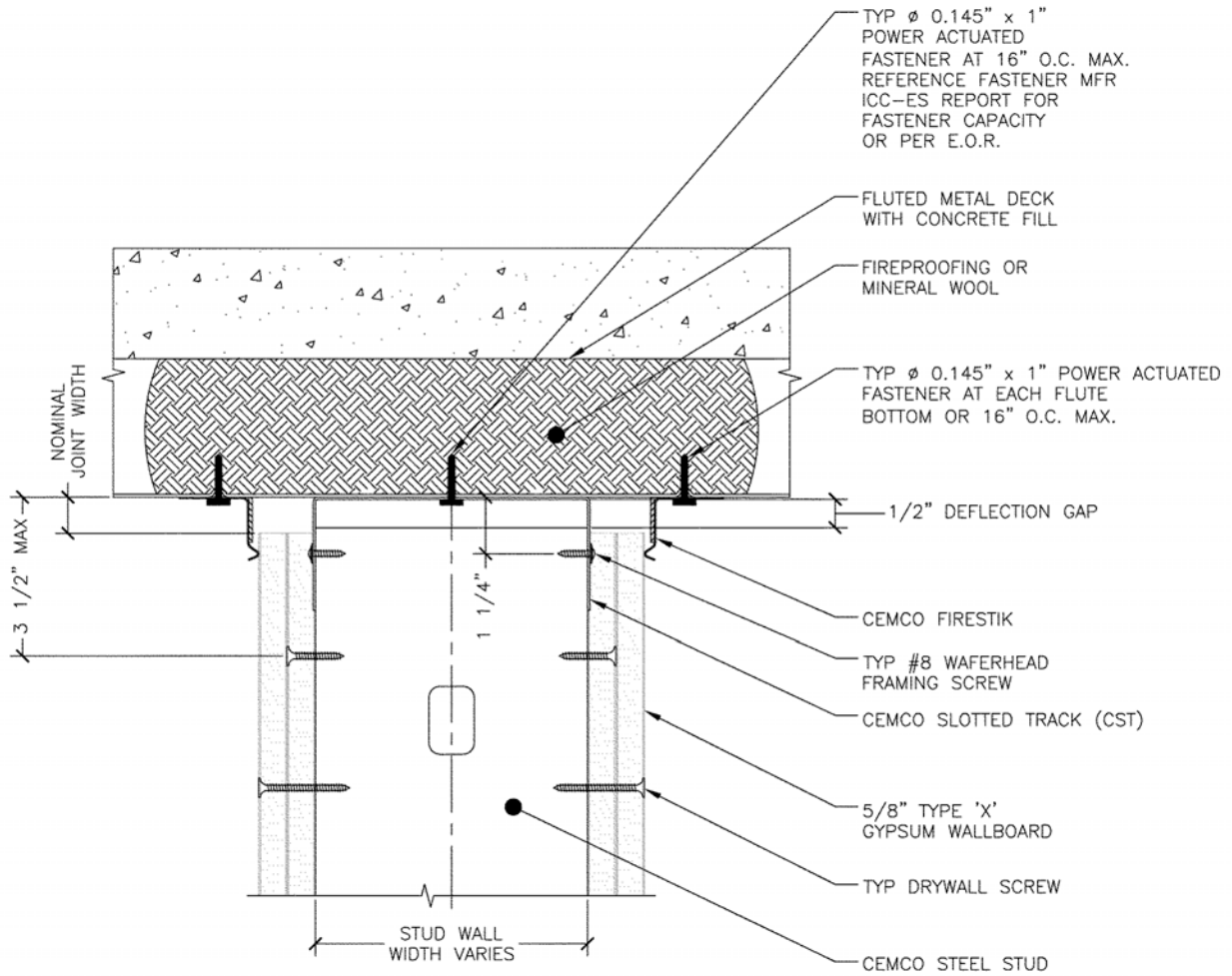


HEAD OF WALL SYSTEM 1, PERPENDICULAR TO FLUTE DETAIL WITH $\pm 1/2$ INCH ALLOWABLE VERTICAL MOVEMENT
 1 HR. FIRE RESISTIVE ASSEMBLY



For SI: 1 inch = 25.4 mm.

FIGURE 3

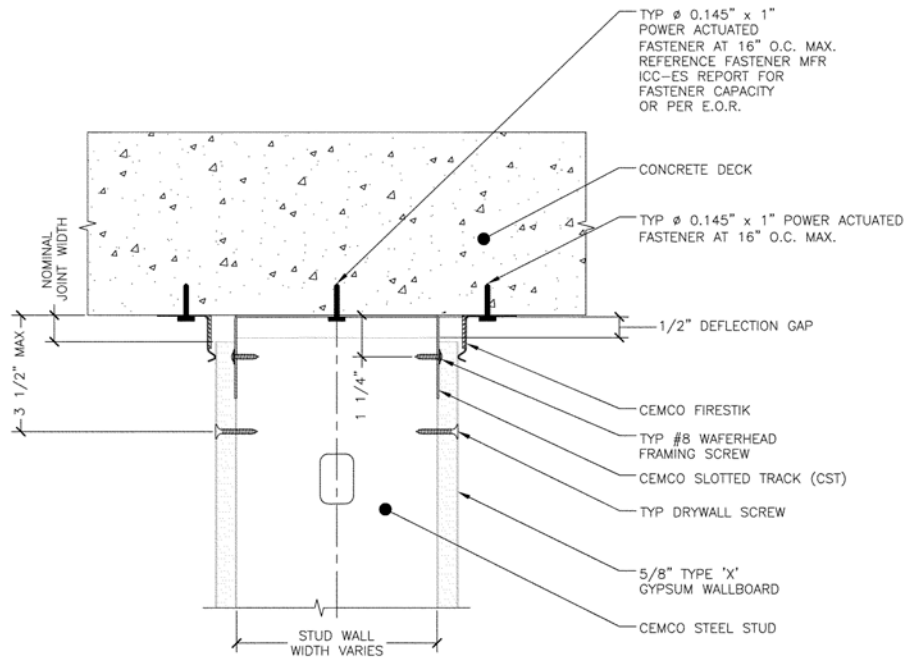


HEAD OF WALL SYSTEM 1, PERPENDICULAR TO FLUTE DETAIL WITH $\pm 1/2$ INCH ALLOWABLE VERTICAL MOVEMENT 2 HR. FIRE RESISTIVE ASSEMBLY



For SI: 1 inch = 25.4 mm.

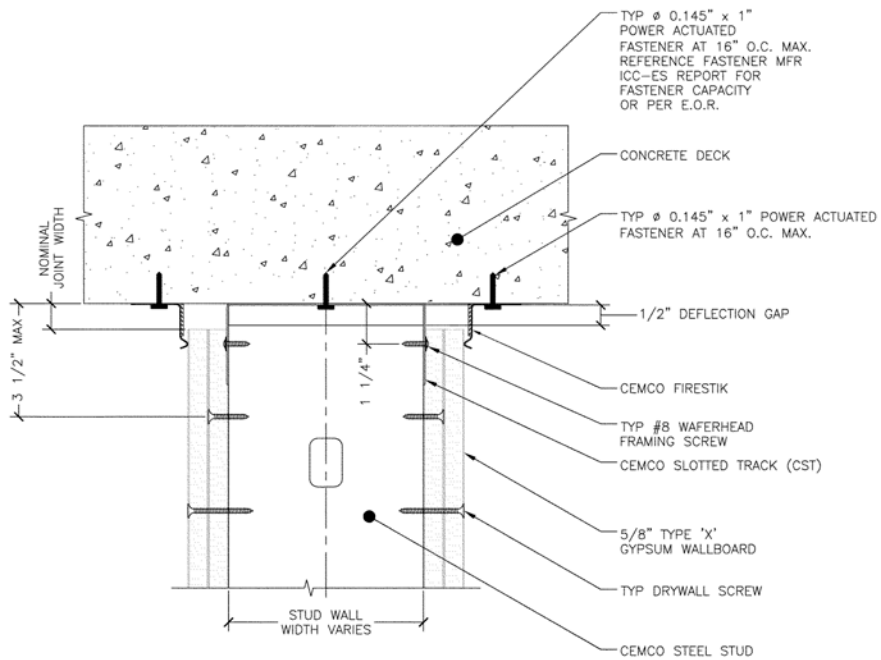
FIGURE 3 (Continued)



HEAD OF WALL SYSTEM 2, AT CONCRETE DECK
WITH $\pm 1/2$ INCH ALLOWABLE VERTICAL MOVEMENT
1 HR. FIRE RESISTIVE ASSEMBLY

S2	C
SF	1

UL-2079 TEST STD.

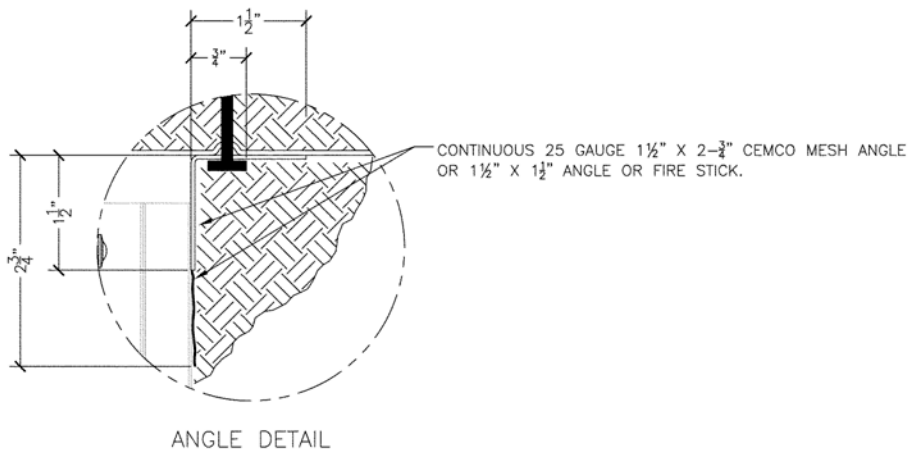
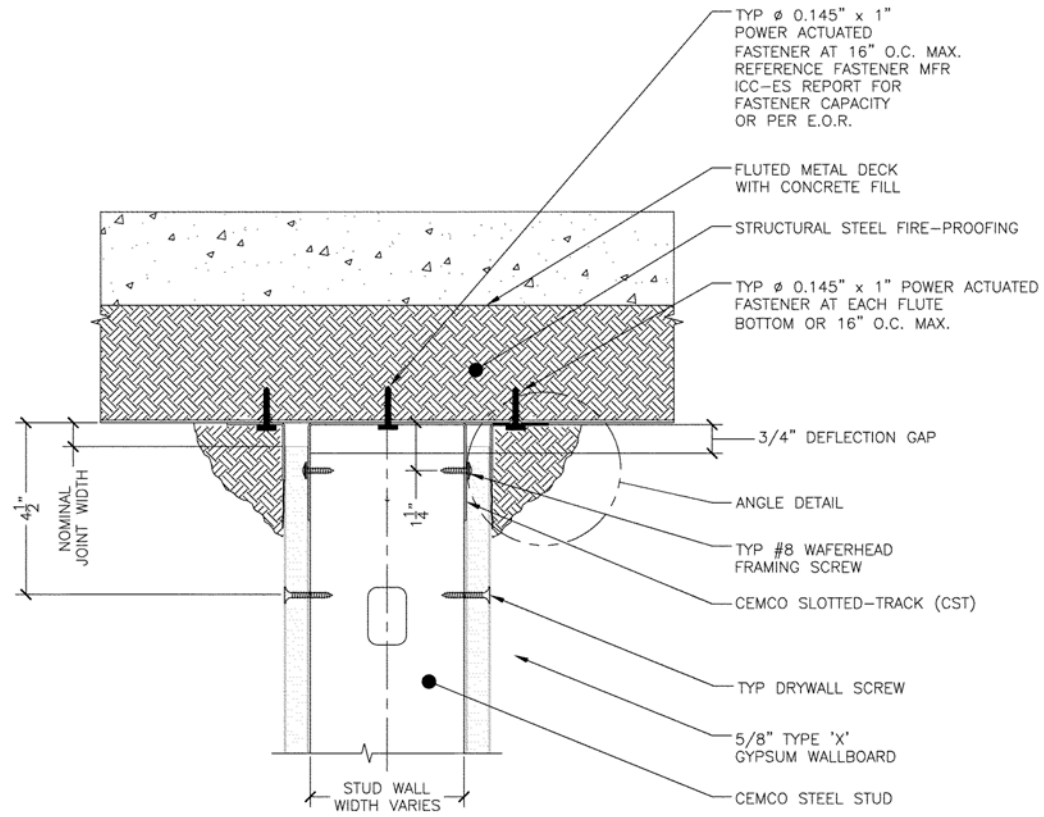


HEAD OF WALL SYSTEM 2, AT CONCRETE DECK
WITH $\pm 1/2$ INCH ALLOWABLE VERTICAL MOVEMENT
2 HR. FIRE RESISTIVE ASSEMBLY

S2	C
SF	2

For SI: 1 inch = 25.4 mm.

FIGURE 4

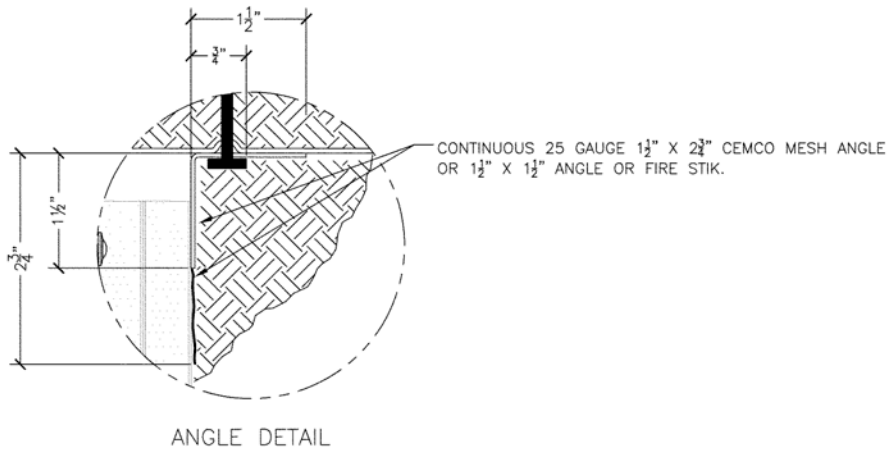
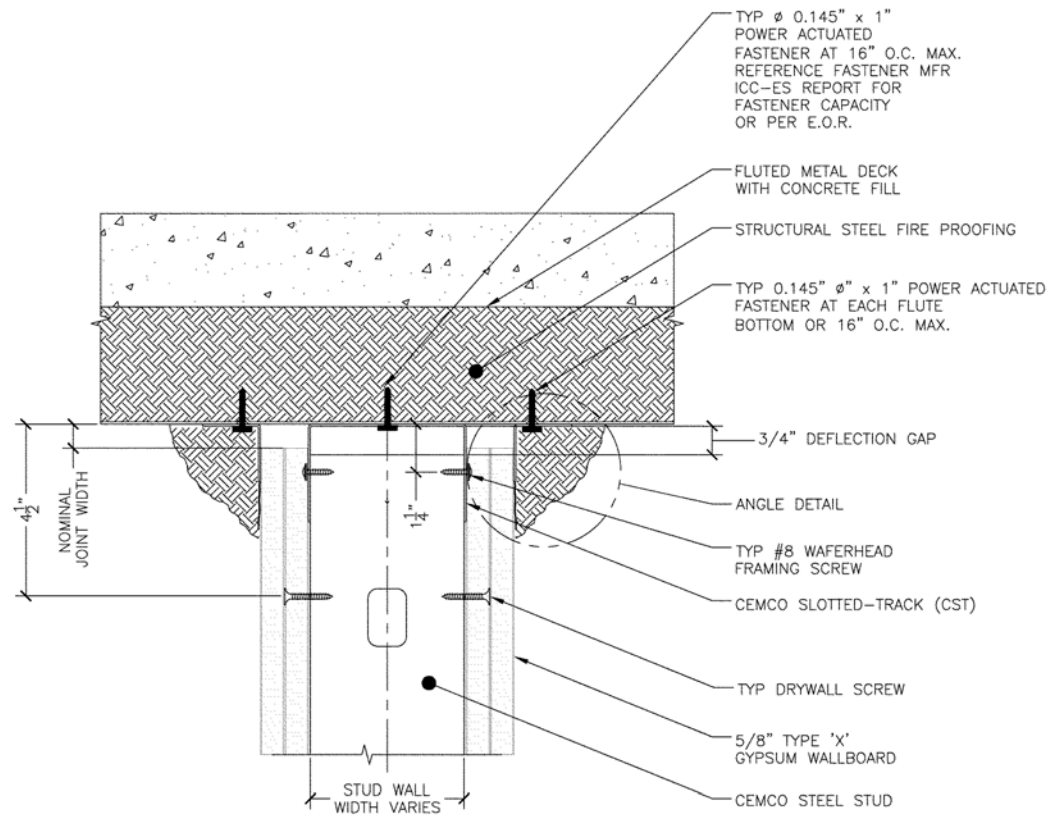


HEAD OF WALL SYSTEM 6, PERPENDICULAR TO FLUTE
 WITH $\pm 3/4$ INCH ALLOWABLE VERTICAL MOVEMENT
 1 HR. FIRE RESISTIVE ASSEMBLY DETAIL

S6	P.L
SF	1

For SI: 1 inch = 25.4 mm.

FIGURE 5

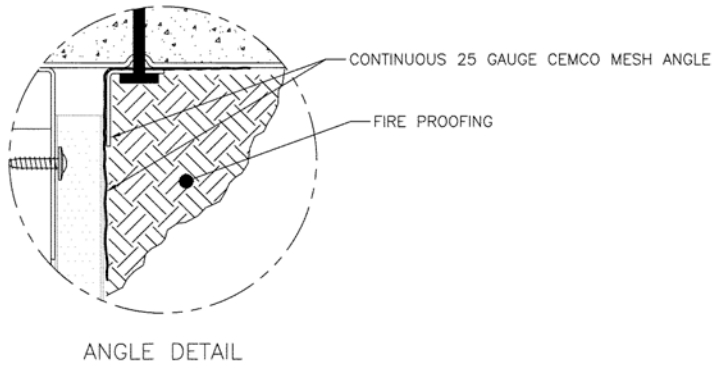
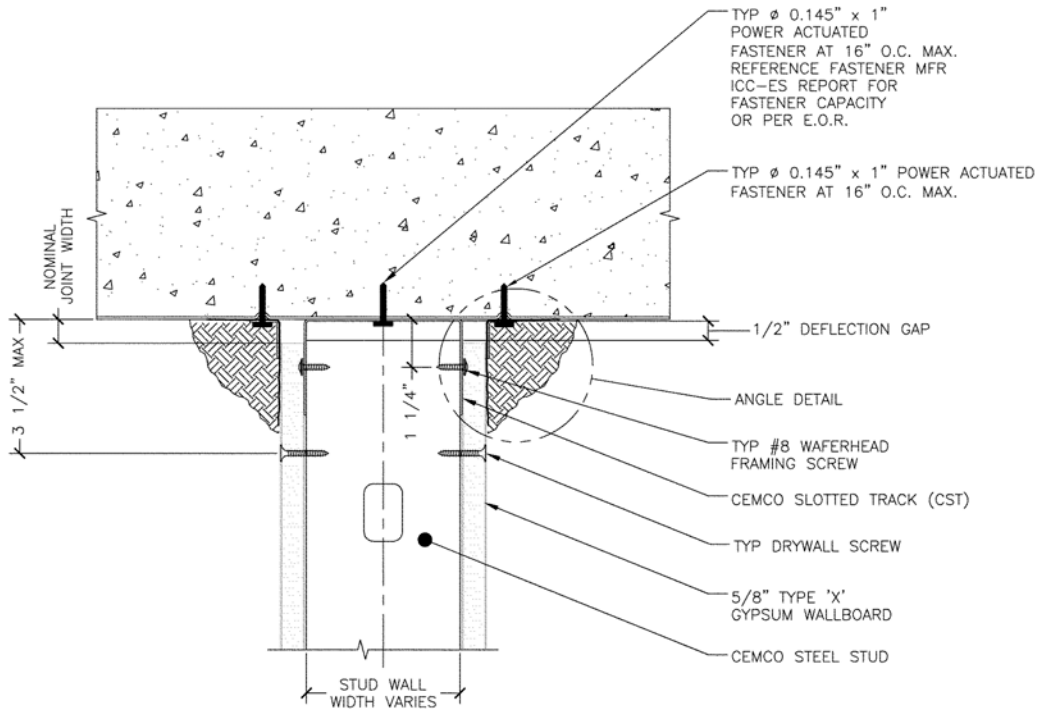


HEAD OF WALL SYSTEM 6, PERPENDICULAR TO FLUTE
 WITH $\pm 3/4$ INCH ALLOWABLE VERTICAL MOVEMENT
 TWO-HR. FIRE RESISTIVE ASSEMBLY DETAIL



For SI: 1 inch = 25.4 mm.

FIGURE 5 (Continued)

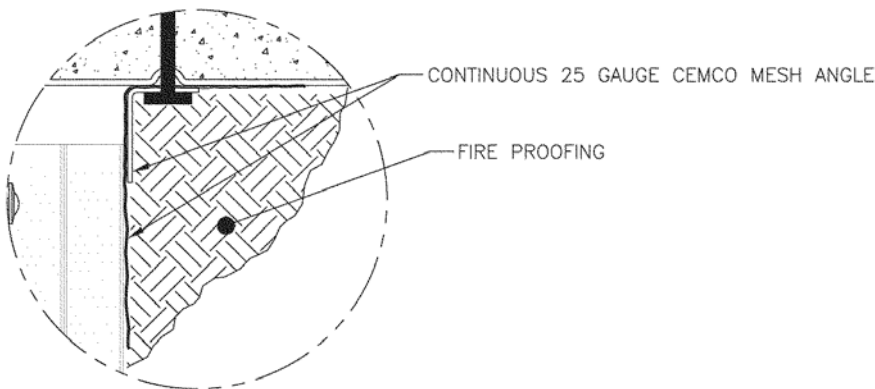
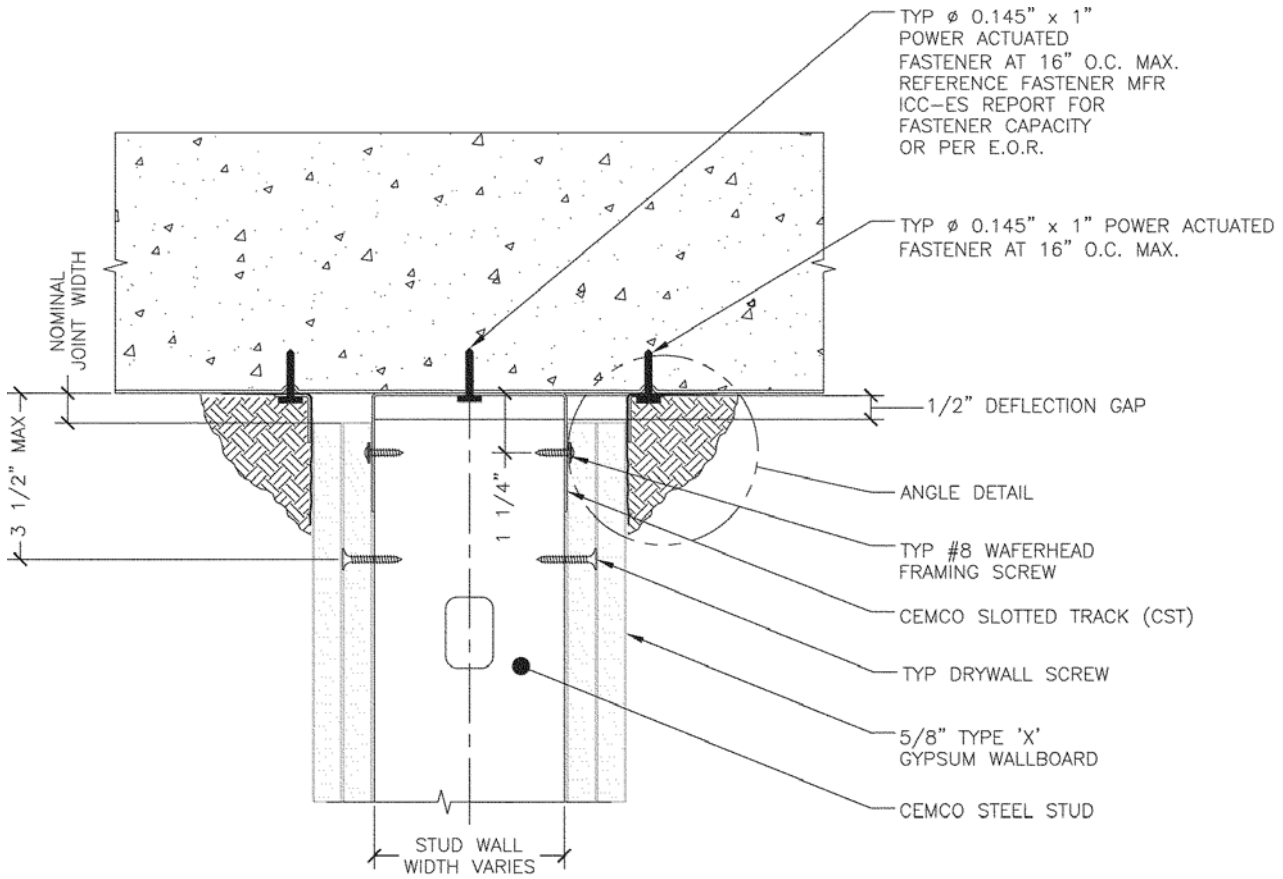


HEAD OF WALL SYSTEM 8,
 $\pm 1/2$ INCH ALLOWABLE VERTICAL MOVEMENT
 1 HR. FIRE RESISTIVE ASSEMBLY



For SI: 1 inch = 25.4 mm.

FIGURE 6



ANGLE DETAIL

HEAD OF WALL SYSTEM 8,
 $\pm 1/2$ INCH ALLOWABLE VERTICAL MOVEMENT
 2 HR. FIRE RESISTIVE ASSEMBLY

S8	C
S	2

For SI: 1 inch = 25.4 mm.

FIGURE 6 (Continued)