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# ICC-ES Report

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# ESR-3943

Reissued 05/2017

This report is subject to renewal 05/2019.

**DIVISION: 05 00 00—METALS**  
**SECTION: 05 40 00—COLD-FORMED METAL FRAMING**  
**DIVISION: 09 00 00—FINISHES**  
**SECTION: 09 22 16.13—NON-STRUCTURAL METAL STUD FRAMING**

**REPORT HOLDER:**

**CRACO MANUFACTURING, INC.**

**1122 JOHNSON ROAD  
YORK, SOUTH CAROLINA 29745**

**EVALUATION SUBJECT:**

**SMARTSTUDS AND SMARTTRACKS**



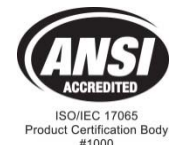
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# ICC-ES Evaluation Report

**ESR-3943**

Reissued May 2017

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**DIVISION: 05 00 00—METALS**

**Section: 05 40 00—Cold-Formed Metal Framing**

**DIVISION: 09 00 00—FINISHES**

**Section: 09 22 16.13—Non-Structural Metal Stud Framing**

**REPORT HOLDER:**

**CRACO MANUFACTURING, INC.**  
1122 JOHNSON ROAD  
YORK, SOUTH CAROLINA 29745  
(803) 389-4425  
[www.cracometals.com](http://www.cracometals.com)

**EVALUATION SUBJECT:**

**SMARTSTUDS AND SMARTTRACKS**

**1.0 EVALUATION SCOPE**

**Compliance with the following codes:**

2015 and 2012 *International Building Code*® (IBC)

**Property evaluated:**

Structural

**2.0 USES**

The SmartStuds (studs) and SmartTracks (tracks) are used for the framing of interior nonload-bearing composite walls.

**3.0 DESCRIPTION**

**3.1 General:**

The stud properties are provided in Table 1 and the track properties are provided in Table 2. The shapes of the studs and tracks are provided in Figure 1. The punch-out details are provided in Figure 2.

**3.2 Material:**

**3.2.1 Steel:** The studs and tracks are cold-formed from steel coils complying with ASTM A1003 NS50 with a G40 metallic coating.

**3.2.2 Gypsum Wallboard:** The gypsum wallboard must be a minimum of  $\frac{5}{8}$  inch (15.9 mm) thick, Type X, complying with ASTM C1396 and manufactured by the National Gypsum Company.

**3.2.3 Fasteners:** Fastener for attaching the gypsum wallboard to studs and tracks must be No. 6 by

$1\frac{1}{4}$ -inch-long (32 mm), Type S, fine thread, drywall bugle head screws conforming to ASTM C1002.

Fasteners for attaching studs to tracks must be No.6 by  $\frac{3}{4}$ -inch-long (19.1 mm), Type A, fine thread, pan head screws conforming to ASTM C1002.

**4.0 DESIGN AND INSTALLATION**

Limiting heights for interior, nonload-bearing, composite walls are shown in Table 3. Installation of studs and tracks must be in accordance with the approved plans and this report. The approved plans must be available on the jobsite at all times during installation. See the footnotes to Table 3 for installation details.

**5.0 CONDITIONS OF USE**

The studs and tracks 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** Installation must comply with the approved plans and this report. In the event of a conflict, this report governs.
- 5.2** Minimum uncoated base-metal thickness of the studs and tracks delivered to the jobsite must be at least 95 percent of the design base-metal thickness, see Table 1.
- 5.3** Use of the studs and tracks is limited to interior nonload-bearing wall assemblies where the superimposed axial load is zero pounds.
- 5.4** Design of the attachment of the wall to the surrounding structure is outside the scope of this report.
- 5.5** Installation of the gypsum wall board must comply with the requirements of ASTM C840 or GA-216.

**6.0 EVIDENCE SUBMITTED**

Data in accordance with the ICC-ES Acceptance Criteria for Cold-formed Steel Framing Members—Interior Nonload-bearing Wall Assemblies (AC86), dated May 2012 (editorially revised August 2013).

**7.0 IDENTIFICATION**

Each stud or track must have a legible label or stamp, at a maximum spacing of 96 inches (2438 mm) on center, indicate the product name and member designation, manufacture's name (Craco), the minimum yield strength in ksi, and the evaluation report number (ESR-3943).

TABLE 1—SMARTSTUD PROPERTIES

PRODUCT NAME	MEMBER DESIGNATION	MINIMUM UNCOATED BASE-METAL THICKNESS (inch)	DESIGN THICKNESS (inch)	MINIMUM YIELD STRENGTH (ksi)
1 <sup>5</sup> / <sub>8</sub> " SmartStud25	162S125-15	0.0149	0.0157	50
1 <sup>5</sup> / <sub>8</sub> " SmartStud20	162S125-19	0.0190	0.0200	50
1 <sup>5</sup> / <sub>8</sub> " SmartStud23mil	162S125-23	0.0233	0.0245	50
2 <sup>1</sup> / <sub>2</sub> " SmartStud25	250S125-15	0.0149	0.0157	50
2 <sup>1</sup> / <sub>2</sub> " SmartStud20	250S125-19	0.0190	0.0200	50
2 <sup>1</sup> / <sub>2</sub> " SmartStud23mil	250S125-23	0.0233	0.0245	50
3 <sup>5</sup> / <sub>8</sub> " SmartStud25	362S125-15	0.0149	0.0157	50
3 <sup>5</sup> / <sub>8</sub> " SmartStud20	362S125-19	0.0190	0.0200	50
3 <sup>5</sup> / <sub>8</sub> " SmartStud23mil	362S125-23	0.0233	0.0245	50
4" SmartStud25	400S125-15	0.0149	0.0157	50
4" SmartStud20	400S125-19	0.0190	0.0200	50
4" SmartStud23mil	400S125-23	0.0233	0.0245	50
6" SmartStud25	600S125-15	0.0149	0.0157	50
6" SmartStud20	600S125-19	0.0190	0.0200	50
6" SmartStud23mil	600S125-23	0.0233	0.0245	50

TABLE 2—SMARTTRACK PROPERTIES

MEMBER	MEMBER DESIGNATION	MINIMUM UNCOATED BASE-METAL THICKNESS (inch)	DESIGN THICKNESS (inch)	MINIMUM YIELD STRENGTH (ksi)
1 <sup>5</sup> / <sub>8</sub> " SmartTrack25	162T125-15	0.0149	0.0157	50
1 <sup>5</sup> / <sub>8</sub> " SmartTrack20	162T125-19	0.0190	0.0200	50
1 <sup>5</sup> / <sub>8</sub> " SmartTrack23mil	162T125-23	0.0233	0.0245	50
2 <sup>1</sup> / <sub>2</sub> " SmartTrack25	250T125-15	0.0149	0.0157	50
2 <sup>1</sup> / <sub>2</sub> " SmartTrack20	250T125-19	0.0190	0.0200	50
2 <sup>1</sup> / <sub>2</sub> " SmartTrack23mil	250T125-23	0.0233	0.0245	50
3 <sup>5</sup> / <sub>8</sub> " SmartTrack25	362T125-15	0.0149	0.0157	50
3 <sup>5</sup> / <sub>8</sub> " SmartTrack20	362T125-19	0.0190	0.0200	50
3 <sup>5</sup> / <sub>8</sub> " SmartTrack23mil	362T125-23	0.0233	0.0245	50
4" SmartTrack25	400T125-15	0.0149	0.0157	50
4" SmartTrack20	400T125-19	0.0190	0.0200	50
4" SmartTrack23mil	400T125-23	0.0233	0.0245	50
6" SmartTrack25	600T125-15	0.0149	0.0157	50
6" SmartTrack20	600T125-19	0.0190	0.0200	50
6" SmartTrack23mil	600T125-23	0.0233	0.0245	50

TABLE 3—LIMITING HEIGHTS—COMPOSITE WALLS (FEET-INCH)<sup>1-5</sup>

PRODUCT NAME (PRODUCT DESIGNATION)	STUD SPACING	TRANSVERSE LOAD											
		5 PSF			7.5 PSF			10 PSF			15 PSF		
		L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
1 <sup>5</sup> / <sub>8</sub> " SmartStud25 (162S125-15)	12	13-3	10-6	9-0	11-7	9-0	-	10-6	8-1	-	-	-	-
	16	12-1	9-5	8-1	10-6	8-1	-	9-5	-	-	-	-	-
	24	10-6	8-1	-	9-0	-	-	8-0	-	-	-	-	-
1 <sup>5</sup> / <sub>8</sub> " SmartStud20 (162S125-19)	12	13-0	10-4	9-0	11-4	9-0	7-11	10-4	8-3	-	7-5	-	-
	16	11-10	9-4	8-2	10-4	8-2	-	9-4	7-5	-	6-5	-	-
	24	10-4	8-2	-	9-0	-	-	8-3	-	-	-	-	-
1 <sup>5</sup> / <sub>8</sub> " SmartStud23mil (162S125-23)	12	14-1	11-3	9-10	12-4	9-10	8-7	11-3	8-11	-	9-0	-	-
	16	12-10	10-2	8-11	11-3	8-11	-	10-2	8-1	-	7-10	-	-
	24	11-3	8-11	-	9-10	-	-	8-11	-	-	-	-	-
2 <sup>1</sup> / <sub>2</sub> " SmartStud25 (250S125-15)	12	16-0	13-0	11-7	14-4	11-3	9-9	12-2	10-6	9-1	10-0	8-9	-
	16	14-10	11-9	10-1	12-11	10-5	9-0	11-5	9-5	8-5	8-9	8-1	-
	24	12-9	9-10	9-0	11-0	8-10	-	9-8	8-0	-	-	-	-
2 <sup>1</sup> / <sub>2</sub> " SmartStud20 (250S125-19)	12	19-1	14-10	13-0	16-7	13-0	10-0	14-6	10-10	8-1	11-10	8-4	7-6
	16	15-6	12-1	10-7	13-8	10-10	9-3	12-2	9-6	8-1	8-7	8-7	-
	24	14-9	11-0	8-6	12-4	8-7	6-11	9-10	7-5	-	8-4	-	-
2 <sup>1</sup> / <sub>2</sub> " SmartStud23mil (250S125-23)	12	20-9	16-1	14-2	18-1	14-1	10-10	15-9	11-9	8-9	12-10	9-0	8-2
	16	16-10	13-2	11-6	14-10	11-9	10-1	13-3	10-4	8-9	9-4	9-4	-
	24	16-0	11-11	9-3	13-5	9-4	7-6	10-8	8-1	-	9-0	-	-
3 <sup>5</sup> / <sub>8</sub> " SmartStud25 (362S125-15)	12	20-9	16-6	14-5	18-0	14-5	12-7	15-7	13-1	11-5	10-3	10-3	9-8
	16	18-10	15-0	13-1	15-7	13-1	11-5	13-6	11-11	10-3	8-10	8-10	8-6
	24	15-7	13-1	11-5	12-9	11-5	9-8	11-0	10-3	8-6	-	-	-
3 <sup>5</sup> / <sub>8</sub> " SmartStud20 (362S125-19)	12	21-10	17-4	15-2	18-11	15-2	13-3	16-5	13-9	12-0	10-9	10-9	10-6
	16	19-10	15-9	13-9	16-5	13-9	12-0	14-2	12-6	10-11	9-4	9-4	9-4
	24	16-5	13-9	12-0	13-4	12-0	10-6	11-7	10-11	9-5	-	-	-
3 <sup>5</sup> / <sub>8</sub> " SmartStud23mil (362S125-23)	12	23-5	18-7	16-3	20-5	16-3	14-2	18-7	14-9	12-11	12-8	12-8	11-3
	16	21-3	16-11	14-9	18-7	14-9	12-11	16-9	13-5	11-8	11-0	11-0	10-2
	24	18-7	14-9	12-11	15-9	12-11	11-3	13-8	11-8	10-2	9-0	9-0	8-10

(continued)

TABLE 3—LIMITING HEIGHTS—COMPOSITE WALLS (FEET-INCH)<sup>1-5</sup>

PRODUCT NAME (PRODUCT DESIGNATION)	STUD SPACING	TRANSVERSE LOAD											
		5 PSF			7.5 PSF			10 PSF			15 PSF		
		L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
4" SmartStud25 (400S125-15)	12	22-10	18-5	15-11	19-4	15-8	13-8	16-11	14-4	12-3	12-6	11-4	10-1
	16	20-4	16-7	14-1	16-9	14-1	12-0	14-7	12-7	11-2	10-8	10-8	-
	24	16-11	14-1	12-3	13-5	12-5	10-5	11-6	11-3	9-0	8-1	-	-
4" SmartStud20 (400S125-19)	12	22-10	18-3	16-0	20-1	15-11	14-1	18-6	14-7	12-9	14-4	12-6	10-5
	16	20-4	16-2	14-3	17-9	14-4	12-9	17-4	13-8	11-7	11-8	11-2	9-10
	24	18-4	14-6	12-7	15-9	12-8	11-2	14-4	11-8	10-9	10-1	9-2	-
4" SmartStud23mil (400S125-23)	12	24-10	19-10	17-5	21-10	17-4	15-4	20-1	10-10	13-10	15-7	13-7	11-4
	16	22-1	17-7	15-6	19-3	15-7	13-11	18-10	14-10	12-7	12-8	12-2	10-7
	24	19-11	15-9	13-8	17-1	13-9	12-2	15-7	12-8	11-8	10-11	10-0	-
6" SmartStud25 (600S125-15)	12	26-5	23-0	20-1	21-7	20-1	17-6	18-8	18-3	15-11	12-3	12-3	12-3
	16	22-11	20-10	18-3	18-8	18-3	15-11	16-2	16-2	14-6	-	-	-
	24	18-8	18-3	15-11	15-3	15-3	13-11	13-3	13-3	12-5	-	-	-
6" SmartStud20 (600S125-19)	12	29-11	23-9	20-9	22-5	20-9	18-1	19-5	18-10	16-5	12-10	12-10	12-10
	16	23-10	21-6	18-10	19-5	18-10	16-5	16-10	17-1	14-11	11-1	10-11	10-11
	24	19-6	18-10	16-5	15-10	16-5	14-5	13-9	14-11	13-0	-	-	-
6" SmartStud23mil (600S125-23)	12	33-3	26-4	23-0	28-1	23-0	20-1	24-4	20-11	18-3	16-0	16-0	16-0
	16	29-9	23-11	20-11	24-4	20-11	18-3	21-1	19-0	16-7	13-10	13-10	13-10
	24	24-4	20-11	18-3	19-10	18-3	16-0	17-2	16-7	14-5	-	-	-

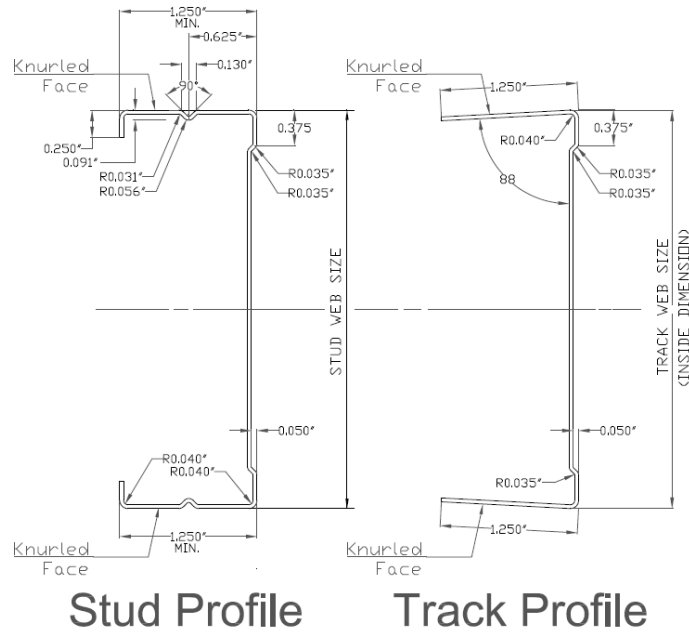
<sup>1</sup> Gypsum wallboard, complying with Section 3.2.2, must be attached on both sides of the wall framing for the full height of the wall with the long dimension of the gypsum wallboard parallel to the studs.

<sup>2</sup> Placement of the joints in the gypsum sheathing must be in accordance with Sections 4.6.3 and 4.6.4 of GA-216 (Gypsum Association Application and Finishing of Gypsum Panel Products) or Section 7.5 of ASTM C840.

<sup>3</sup> End bearing of studs must be a minimum 1 inch.

<sup>4</sup> Fasteners, complying with Section 3.2.3, must be used to fasten the gypsum wall board to the studs and tracks. Fasteners must be spaced a maximum of 12 inches on center.

<sup>5</sup> Fasteners, complying with Section 3.2.4, must be installed on each side of the stud to fasten it to the tracks.



**STUD WEB SIZES ( OUTSIDE DIMENSIONS)**

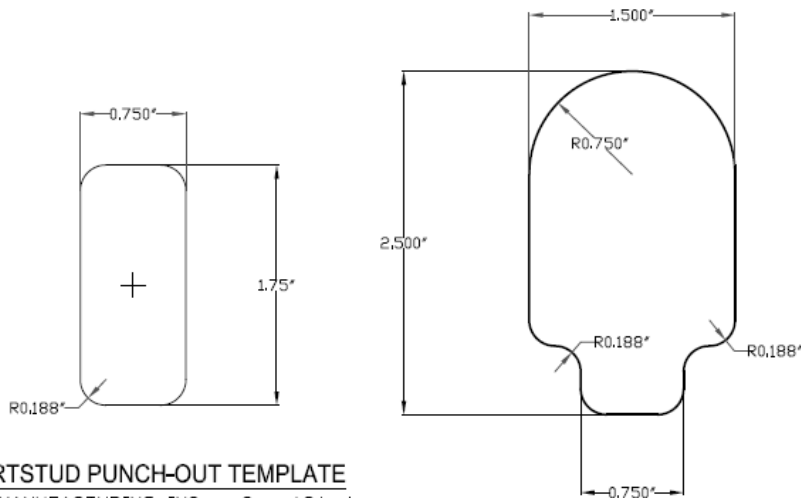
1-5/8, 2-1/2", 3-5/8", 4" & 6"

**TRACK WEB SIDES ( INSIDE DIMENSIONS)**

1-5/8", 2-1/2", 3-5/8", 4" & 6"

Hemmed track leg is limited to 15mil products.

**FIGURE 1—STUD AND TRACK CONFIGURATIONS**



**SMARTSTUD PUNCH-OUT TEMPLATE**

CRACO MANUFACTURING INC. - SmartStud  
(For 1-5/8" & 2-1/2" Web Widths)

**SMARTSTUD PUNCH-OUT TEMPLATE**

CRACO MANUFACTURING INC. - SmartStud  
(For 3-5/8", 4" & 6" Web Widths)

Punch-outs are centered on web width of studs  
Punch-outs are located 10" from leading edge of stud length to leading edge of 1st punchout  
Remaining punch-outs are 24" on center.

**FIGURE 2—PUNCH-OUT CONFIGURATIONS**

## ICC-ES Evaluation Report

## ESR-3943 FBC Supplement

Reissued May 2017

This report is subject to renewal May 2019.

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### EVALUATION SUBJECT:

**SMARTSTUDS AND SMARTTRACKS**

### 1.0 REPORT PURPOSE AND SCOPE

#### Purpose:

The purpose of this evaluation report supplement is to indicate that SmartStuds and SmartTracks, recognized in ICC-ES master report ESR-3943, have also been evaluated for compliance with the codes noted below.

#### Applicable code editions:

- 2014 *Florida Building Code—Building*

### 2.0 CONCLUSIONS

The SmartStuds and SmartTracks, described in Sections 2.0 through 7.0 of the master evaluation report ESR-3943, comply with the *Florida Building Code—Building* provided the design and installation are in accordance with the *International Building Code*® (IBC) provisions noted in the master report.

Use of the SmartStuds and SmartTracks for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* has not been evaluated, and is outside the scope of this supplemental report.

For products falling under Florida Rule 9N-3, verification that the report holder's quality-assurance program is audited by a quality-assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official, when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the master report, reissued May 2017.