ICC-ES Evaluation Report

ESR-4849

Issued *August 2024*

This report also contains:

-LABC Supplement

-FBC Supplement

Subject to renewal August 2025

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DIVISION: 05 00 00 — METALS Section: 05 05 23 — Metal Fastenings	REPORT HOLDER: EJOT FASTENING SYSTEMS, L.P.	EVALUATION SUBJECT: EJOT JT2 CARBON STEEL AND JT3 BI-METAL SELF-DRILLING SCREWS FOR STEEL-TO-STEEL CONNECTIONS	

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2024, 2021, 2018 and 2015 *International Building Code®* (IBC)
- 2024, 2021, 2018 and 2015 *International Residential Code®* (IRC)

For evaluation for compliance with codes adopted by Los Angeles Department of Building and Safety (LADBS), see ESR-4849 LABC and LARC Supplement.

Property evaluated:

- Structural

2.0 USES

The EJOT JT2 Carbon Steel and EJOT JT3 Bi-metal (stainless steel screw with carbon steel drill point) Self-Drilling Screws for Steel-to-Steel Connections are used in engineered connections of cold-formed steel or code-prescribed connections of cold-formed steel framing. The screws are used to connect cold-formed steel members together.

3.0 DESCRIPTION

3.1 General:

The EJOT JT2 Carbon Steel and EJOT JT3 Bi-metal Self-Drilling Screws are proprietary, fully threaded, self-drilling tapping screws. Table 1 provides screw designations, shank diameter, head style and diameter, drive sizes, point styles, drilling capacity, minimum required protrusion lengths and coating descriptions.

JT2 Screws: The JT2 screws are #10-16 TPI, #12-14 TPI, #12-24 TPI, ¼"-14 TPI and ¼"-20 TPI self-drilling tapping screws. The screws are manufactured from carbon steel wire conforming to SAE 1018/SAE 1022, then they are heat treated, case hardened, and coated with a silver-grey zinc coating.

3.1.1 T3 Screws: The JT3 screws are #10-16 TPI, #12-14 TPI, #12-24 TPI, ¼"-14 TPI and ¼"-20 TPI self-drilling tapping screws. The JT3 screws are bi-metal screws manufactured from 304 stainless steel (Austenitic Steel A2), EN 10088 /ISO15510) with hardened Carbon steel drill point to increase drilling capacity while resistant to corrosion.

3.2 Cold-formed Steel:

Cold-formed steel material must comply with Section A3.1 of AISI S100 (Section A2.1 for the 2015 IBC) and must have the minimum applicable specified tensile strength (F_u) shown in the tables of this report. Base steel thickness must comply with Section B7.1 of AISI S100 (Section A2.4 of AISI S100 for the 2015 IBC) and this report.

4.0 DESIGN AND INSTALLATION

4.1 Design:

4.1.1 General: Selection of screw length must be based on the thickness of the fastened steel members plus the minimum required protrusion past the back of the supporting steel. Point selection must be based on the drilling capacity of the screws. See Table 1A and 1B for minimum required protrusion lengths and drilling capacities of JT2 and JT3 screws, respectively.

When tested for corrosion resistance in accordance with ASTM B117, the screws met the minimum requirement listed in ASTM F1941, as required by ASTM C1513, with no white corrosion after three hours and no red rust after 12 hours.

4.1.2 Engineered Design: The EJOT JT2 Carbon Steel and EJOT JT3 Bi-metal Self-Drilling Screws may be used in engineered connections of cold-formed steel construction. Design of connections must comply with Section J4 of AISI S100 (Section E4 of AISI S100 for the 2015 IBC), using the nominal and allowable fastener tension and shear strengths shown in Table 2. Load Resistance Factor Design for pull-out, pull-over and shear (bearing) capacity, are provided in Tables 3, 4, and 5 (A and B), respectively, based on calculations in accordance with AISI S100. The connection strength values are applicable to connections where the connected steel elements are in direct contact with one another. For connections subject to tension, the least of the fastener tension capacity, pullout, and pullover loads found in Tables 2, 3 and 4, respectively, must be used for design. For connections subject to shear, the lesser of the fastener shear strength and lap shear (bearing) found in Tables 2 and 5 (A and B), respectively, must be used for design. Design provisions for tapping screw connections subjected to combined shear and tension loading are outside the scope of this report.

Under the 2024 and 2021 IBC, for screws used in framing connections, in order for the screws to be considered fully effective, the minimum spacing between the fasteners must be 3 times the nominal screw diameter and the minimum edge distance must be 1.5 times the nominal screw diameter. Under the 2018, 2015 IBC, for screws used in framing connections, in order for the screws to be considered fully effective, the minimum spacing between the fasteners and the minimum edge distance must be three times the nominal diameter of the screws, except when the edge is parallel to the direction of the applied force, the minimum edge distance must be 1.5 times the nominal screw diameter. When the spacing between screws is less than three times the nominal screw diameter, the connection shear strength values in Table 5 must be reduced by 20 percent [Refer to Section B1.5.1.3 of AISI S240 (Section D1.5 of AISI S200 for the 2015 IBC)].

For screws used in applications other than framing connections, the minimum spacing between fasteners must be three times the nominal screw diameter, and the minimum edge and end distance must be 1.5 times the nominal screw diameter.

Connected members must be checked for rupture in accordance with Section J6 of AISI S100 (Section E6 of AISI S100 for the 2015 IBC).

4.2 Installation:

Installation of EJOT JT2 Carbon Steel and EJOT JT3 Bi-metal Self-Drilling Screws must be in accordance with the manufacturer's published installation instructions and this report. The manufacturer's published installation instructions must be available at the jobsite at all times during installation.

The screws must be installed perpendicular to the work surface, using a variable speed screw driving tool set between 1,800 and 2,500 rpm. The screw must penetrate through the supporting steel with a minimum of three exposed threads for the JT2 screws and a minimum of four exposed threads for the JT3 screws protruding past the back side of the supporting steel.

5.0 CONDITIONS OF USE

The EJOT JT2 Carbon Steel and EJOT JT3 Bi-metal Self-Drilling Screws 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 Fasteners must be installed in accordance with this report, the manufacturer's published installation instructions and the approved plans. In the event of a conflict between this report and the manufacturer's published installation instructions, this report governs.

5.2 The use of the screws in engineered steel deck diaphragm has not been evaluated and is outside the scope of this report.

5.3 Evaluation of screws subjected to cyclic or fatigue loading is outside the scope of this report. Applicable Seismic Design Categories must be determined in accordance with the code for the entire assembly constructed with the screws.

5.4 The allowable loads (ASD) specified in Section 4.1 for screws or screw connections must not be increased for short-durations loads, such as wind or seismic loads.

5.5 Drawings and calculations verifying compliance with this report and the applicable code must be submitted to the code official for approval. The drawings and calculations are to be prepared by a registered design professional when required by the statues of the jurisdiction in which the project is to be constructed.

5.6 The screws are manufactured under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

6.1 Data in accordance with the ICC-ES Acceptance Criteria for Tapping Screw Fasteners (AC118), dated January 2018 (Editorially Revised February 2024).

7.0 IDENTIFICATION

7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-4849) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.

7.2 In addition, the EJOT JT2 Carbon Steel and EJOT JT3 Bi-metal Self-Drilling Screws described in this report are identified by J2 or J3, respectively, stamped on the fastener head. All fasteners are packaged in containers noting the product designation, the company name (EJOT Fastening Systems), fastener description (model, point type, diameter and length), lot number and the evaluation report number (ESR-4849).

7.3 The report holder's contact information is the following:

EJOT FASTENING SYSTEMS, L.P.
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JT2 Carbon Steel Self-Drilling Screws								
10-16 Hex	10-16 PPH	12-14 Hex	12-14 HWH	12-24 Hex	¼-14 Hex	¼-14 HWH	¼-14 2SPCH	¼-20 Hex
								

JT3 Bi-metal Self-Drilling Screws								
10-16 Hex	10-16 PPH	10-16 PPCH	12-14 Hex	12-14 PUFH	12-14 BHT	12-24 Hex	¼-14 Hex	¼-14 PUFH
								

FIGURE 1 — EJOT JT2 Carbon Steel and EJOT JT3 Bi-metal Self-Drilling Screws

TABLE 1A—JT2 SELF-DRILLING TAPPING SCREWS[1]

Description	Nominal Diameter	Head Style	Head Diameter	Hex Drive Size/ Phillips Drive Size	Drill Point	Drilling Capacity	Coating	Minimum Protrusion Length	Sku #
Size-TPI-Length	*in*		*in*	*in*		*min - max*		*in*	
10-16 x 3/4	0.189	Hex	0.400	5/16	1	0.018-0.095	C1000	0.402	3555550150
10-16 x 1/2	0.189	Hex	0.400	5/16	3	0.036-0.175	C1000	0.323	3555550350
10-16 x 5/8	0.189	Hex	0.400	5/16	3	0.036-0.175	C1000	0.323	3555550351
10-16 x 3/4	0.189	Hex	0.400	5/16	3	0.036-0.175	C1000	0.323	3555550352
10-16 x 1	0.189	Hex	0.400	5/16	3	0.036-0.175	C1000	0.323	3555550353
10-16 x 1 1/4	0.189	Hex	0.400	5/16	3	0.036-0.175	C1000	0.323	3555550354
10-16 x 1 1/2	0.189	Hex	0.400	5/16	3	0.036-0.175	C1000	0.323	3555550355
10-16 x 3/4	0.189	PPH	0.370	2	3	0.036-0.175	C1000	0.323	3555551357
10-16 x 1	0.189	PPH	0.370	2	3	0.036-0.175	C1000	0.323	3555551358
12-14 x 3/4	0.215	Hex	0.470	5/16	3	0.036-0.210	C1000	0.496	3555550372
12-14 x 1	0.215	Hex	0.470	5/16	3	0.036-0.210	C1000	0.496	3555550373
12-14 x 1 1/4	0.215	Hex	0.470	5/16	3	0.036-0.210	C1000	0.496	3555550374
12-14 x 1 1/2	0.215	Hex	0.470	5/16	3	0.036-0.210	C1000	0.496	3555550375
12-14 x 2	0.215	Hex	0.470	5/16	3	0.036-0.210	C1000	0.496	3555550376
12-14 x 2 1/2	0.215	Hex	0.470	5/16	3	0.036-0.210	C1000	0.496	3555550377
12-14 x 3	0.215	Hex	0.470	5/16	3	0.036-0.210	C1000	0.496	3555550378
12-14 x 4	0.215	Hex	0.470	5/16	3	0.036-0.210	C1000	0.496	3555550379
12-14 x 1 1/4	0.215	HWH	0.550	5/16	3	0.036-0.210	C1000	0.496	3555551374
12-14 x 1 1/2	0.215	HWH	0.550	5/16	3	0.036-0.210	C1000	0.496	3555551375
12-14 x 1 1/2	0.215	Hex	0.470	5/16	7	0.375-0.500	C1000	1.048	3555550775
12-14 x 2	0.215	Hex	0.470	5/16	7	0.125-0.500	C1000	1.048	3555550776
12-14 x 3	0.215	Hex	0.470	5/16	7	0.125-0.500	C1000	1.048	3555550778
12-24 x 7/8	0.215	Hex	0.470	5/16	4	0.125-0.312	C1000	0.505	3555550472
12-24 x 1 1/4	0.215	Hex	0.470	5/16	5	0.125-0.500	C1000	0.714	3555550574
12-24 x 1 1/2	0.215	Hex	0.470	5/16	5	0.125-0.500	C1000	0.714	3555550575
12-24 x 2	0.215	Hex	0.470	5/16	5	0.125-0.500	C1000	0.714	3555550576
1/4-14 x 7/8	0.245	Hex	0.470	5/16	1	0.030-0.095	C1000	0.536	3555550192
1/4-14 x 3/4	0.245	Hex	0.470	3/8	3	0.036-0.210	C1000	0.512	3555550392
1/4-14 x 7/8	0.245	Hex	0.470	3/8	3	0.036-0.210	C1000	0.512	3555550393
1/4-14 x 1	0.245	Hex	0.470	3/8	3	0.036-0.210	C1000	0.512	3555550394
1/4-14 x 1 1/4	0.245	Hex	0.470	3/8	3	0.036-0.210	C1000	0.512	3555550395
1/4-14 x 1 1/2	0.245	Hex	0.470	3/8	3	0.036-0.210	C1000	0.512	3555550396
1/4-14 x 2	0.245	Hex	0.470	3/8	3	0.036-0.210	C1000	0.512	3555550397
1/4-14 x 2 1/2	0.245	Hex	0.470	3/8	3	0.036-0.210	C1000	0.512	3555550398
1/4-14 x 3	0.245	Hex	0.470	3/8	3	0.036-0.210	C1000	0.512	3555550399
1/4-14 x 3 1/2	0.245	Hex	0.470	3/8	3	0.036-0.210	C1000	0.512	3555550400
1/4-14 x 4	0.245	Hex	0.470	3/8	3	0.036-0.210	C1000	0.512	3555550401
1/4-14 x 5	0.245	Hex	0.470	3/8	3	0.036-0.210	C1000	0.512	3555550402
1/4-14 x 6	0.245	Hex	0.470	3/8	3	0.036-0.210	C1000	0.512	3555550403
1/4-14 x 7	0.245	Hex	0.470	3/8	3	0.036-0.210	C1000	0.512	3555550404
1/4-14 x 8	0.245	Hex	0.470	3/8	3	0.036-0.210	C1000	0.512	3555550405
1/4-14 x 7/8	0.245	HWH	0.550	5/16	1	0.030-0.095	C1000	0.536	3555551192
1/4-14 x 1	0.245	SPCH	0.620	3	3	0.036-0.210	C1000	0.512	3555551293
1/4-14 x 2	0.245	SPCH	0.620	3	3	0.036-0.210	C1000	0.512	3555551294
1/4-14 x 3	0.245	SPCH	0.620	3	3	0.036-0.210	C1000	0.512	3555551295
1/4-14 x 4	0.245	SPCH	0.620	3	3	0.036-0.210	C1000	0.512	3555551296
1/4-14 x 5	0.245	SPCH	0.620	3	3	0.036-0.210	C1000	0.512	3555551297
1/4-14 x 6	0.245	SPCH	0.620	3	3	0.036-0.210	C1000	0.512	3555551298
1/4-14 x 7	0.245	SPCH	0.620	3	3	0.036-0.210	C1000	0.512	3555551299
1/4-14 x 8	0.245	SPCH	0.620	3	3	0.036-0.210	C1000	0.512	3555551311
1/4-20 x 3	0.250	Hex	0.470	3/8	5	0.125-0.500	C1000	0.73	3555550598
1/4-20 x 4	0.250	Hex	0.470	3/8	5	0.125-0.500	C1000	0.73	3555550599
1/4-20 x 5	0.250	Hex	0.470	3/8	5	0.125-0.500	C1000	0.73	3555550600
1/4-20 x 6	0.250	Hex	0.470	3/8	5	0.125-0.500	C1000	0.73	3555550601
1/4-20 x 7	0.250	Hex	0.470	3/8	5	0.125-0.500	C1000	0.73	3555550602

1/4-20 x 8	0.250	Hex	0.470	3/8	5	0.125-0.500	C1000	0.73	3555550603

For **SI**: 1 inch = 25.4 mm.

[1] Head Styles: Hex = Hex head; PPH = Philips Pan Head; PPCH = Philips Pancake Head; BH = Buttenhead; PUFH = Philips Undercut Flat Head; HWH = Hex with Integral Washer; SPCH = Sharp Point.

TABLE 1B—JT3 SELF-DRILLING TAPPING SCREWS[1]

Description	Nominal Diameter	Head Style	Head Diameter	Hex Drive Size/Phillips Drive Size	Drill Point	Drilling Capacity	Coating	Minimum Protrusion Length	Sku #
Size-TPI-Length	*in*		*in*	*in*		*min - max*		*in*	
10-16 X 3/4	0.189	PPH	0.370	2	3	0.030-0.110	C1000	0.567	3555555252
10-16 X 1	0.189	PPH	0.370	2	3	0.030-0.110	C1000	0.567	3555555253
10-16 X 1	0.189	PPCH	0.440	2	2	0.030-0.110	C1000	0.433	3555555263
10-16 X 3/4	0.189	Hex	0.410	5/16	3	0.036-0.175	C1000	0.595	3555554352
10-16 X 1	0.189	Hex	0.410	5/16	3	0.036-0.175	C1000	0.595	3555554353
10-16 X 1-1/2	0.189	Hex	0.410	5/16	3	0.036-0.175	C1000	0.595	3555554355
12-14 X 1	0.215	PUFH	0.420	3	3	0.036-0.175	C1000	0.634	3555555373
12-14 X 1-1/4	0.215	PUFH	0.420	3	3	0.036-0.175	C1000	0.634	3555555374
12-14 X 1-1/2	0.215	PUFH	0.420	3	3	0.036-0.175	C1000	0.634	3555555375
12-14 X 1	0.215	Hex	0.410	5/16	2	0.030-0.110	C1000	0.65	3555554273
12-14 X 1-1/2	0.215	Hex	0.410	5/16	2	0.030-0.110	C1000	0.65	3555554275
12-14 X 2	0.215	Hex	0.410	5/16	2	0.030-0.110	C1000	0.65	3555554276
12-14 X 2-1/2	0.215	Hex	0.410	5/16	2	0.030-0.110	C1000	0.65	3555554277
12-14 X 1	0.215	Hex	0.410	5/16	3	0.036-0.175	C1000	0.626	3555554373
12-14 X 1-1/4	0.215	Hex	0.410	5/16	3	0.036-0.175	C1000	0.626	3555554374
12-14 X 1-1/2	0.215	Hex	0.410	5/16	3	0.036-0.175	C1000	0.626	3555554375
12-14 X 2	0.215	Hex	0.410	5/16	3	0.036-0.175	C1000	0.626	3555554376
12-14 X 2-3/4	0.215	Hex	0.410	5/16	3	0.036-0.175	C1000	0.626	3555554377
12-14 X 3-1/2	0.215	Hex	0.410	5/16	3	0.036-0.175	C1000	0.626	3555554378
12-14 X 4-3/8	0.215	Hex	0.410	5/16	3	0.036-0.175	C1000	0.626	3555554379
12-14 X 1	0.215	BH	0.460	TX25	2	0.030-0.110	C1000	0.606	3555554283
12-14 X 2	0.215	BH	0.460	TX25	2	0.030-0.110	C1000	0.606	3555554286
12-14 X 1	0.215	BH	0.460	TX25	3	0.036-0.175	C1000	0.606	3555554383
12-14 X 1-3/8	0.215	BH	0.460	TX25	3	0.036-0.175	C1000	0.606	3555554384
12-14 X 1-1/2	0.215	BH	0.460	TX25	5	0.125-0.500	C1000	1.067	3555554385
12-14 X 1	0.215	PUFH	0.420	3	2	0.030-0.110	C1000	0.634	3555555273
12-14 X 1-1/4	0.215	PUFH	0.420	3	2	0.030-0.110	C1000	0.634	3555555274
12-14 X 1-1/2	0.215	PUFH	0.420	3	2	0.030-0.110	C1000	0.634	3555555275
12-24 X 1-3/4	0.215	Hex	0.410	5/16	5	0.125-0.500	C1000	1.048	3555554585
12-24 X 2-1/4	0.215	Hex	0.410	5/16	5	0.125-0.500	C1000	1.048	3555554587
12-24 X 3	0.215	Hex	0.410	5/16	5	0.125-0.500	C1000	1.048	3555554588
12-24 X 4	0.215	Hex	0.410	5/16	5	0.125-0.500	C1000	1.048	3555554589
1/4-14 X 3	0.246	PUFH	0.420	3	3	0.036-0.175	C1000	0.614	3555555298
1/4-14 X 4	0.246	PUFH	0.420	3	3	0.036-0.175	C1000	0.614	3555555299
1/4-14 X 1	0.246	Hex	0.500	3/8	3	0.036-0.175	C1000	0.615	3555554393
1/4-14 X 1-1/2	0.246	Hex	0.500	3/8	3	0.036-0.175	C1000	0.615	3555554395
1/4-14 X 2	0.246	Hex	0.500	3/8	3	0.036-0.175	C1000	0.615	3555554396
1/4-14 X 2-1/2	0.246	Hex	0.500	3/8	3	0.036-0.175	C1000	0.615	3555554397
1/4-14 X 3	0.246	Hex	0.500	3/8	3	0.036-0.175	C1000	0.615	3555554398
1/4-14 X 4	0.246	Hex	0.500	3/8	3	0.036-0.175	C1000	0.615	3555554399
1/4-20 X 2	0.246	Hex	0.500	3/8	5	0.125-0.500	C1000	1.071	3555554596
1/4-20 X 3	0.246	Hex	0.500	3/8	5	0.125-0.500	C1000	1.071	3555554598
1/4-20 X 4	0.246	Hex	0.500	3/8	5	0.125-0.500	C1000	1.071	3555554599
1/4-20 X 5	0.246	Hex	0.500	3/8	5	0.125-0.500	C1000	1.071	3555554600
1/4-20 X 6	0.246	Hex	0.500	3/8	5	0.125-0.500	C1000	1.071	3555554601
1/4-20 X 7	0.246	Hex	0.500	3/8	5	0.125-0.500	C1000	1.071	3555554602
1/4-20 X 8	0.246	Hex	0.500	3/8	5	0.125-0.500	C1000	1.071	3555554603

For **SI**: 1 inch = 25.4 mm.

[1] Head Styles: Hex = Hex head; PPH = Philips Pan Head; PPCH = Philips Pancake Head; BH = Buttenhead; PUFH = Philips Undercut Flat Head; HWH = Hex with Integral Washer; SPCH = Sharp Point.

TABLE 2—SHEAR & TENSION FASTENER STRENGTH (lbf)

Size & TPI	Allowable[1]		LFRD[2]		NOMINAL[3]	
	Shear	Tension	Shear	Tension	Shear	Tension
JT2 SCREWS						
10-16	433	[4]	650	[4]	1330	2704
12-14	705	1150	1058	1725	2115	3449
12-24	721	1265	1081	1898	2162	3796
1/4-14	971	1607	1457	2410	2913	4820
1/4-20	927	1629	1391	2444	2782	4888
JT3 SCREWS						
10-16	516	688	774	1032	1548	2064
12-14	668	918	1002	1377	2005	2754
12-24	709	977	1063	1465	2126	2931
1/4-14	992	1240	1488	1861	2977	3721
1/4-20	1062	1272	1593	1907	3186	3815

For **SI**: 1 inch = 25.4 mm, 1 lbf = 4.4 N, 1 ksi = 6.89 MPa.

[1] Allowable load values calculated by dividing nominal loads by a safety factor of 3.

[2] LFRD load values calculated by multiplying nominal strength values by a reduction factor of 0.5.

[3] Nominal load values are based on laboratory tests.

[4] Loads may be calculated utilizing breaking torque.

TABLE 3—DESIGN (LRFD) TENSILE PULL-OUT LOADS (lbf) [2, 3]

Size & TPI	Nominal Diameter (in)	Thickness of Steel Not in Contact with Screw Head (in)									
		0.018 (26 G)	0.024 (24 G)	0.03 (22 G)	0.036 (20 G)	0.048 (18 G)	0.06 (16 G)	0.075 (14 G)	0.105 (12 G)	0.125 (1/8)	0.187 (3/16)
JT2 SCREWS											
10-16	0.189	52	90	125	152	247	279	279	508	576	[1]
12-14	0.215	[1]	[1]	[1]	73	118	162	257	456	646	1140
12-24	0.215	[1]	[1]	[1]	[1]	[1]	[1]	[1]	488	695	1337
1/4-14	0.246	72	112	152	192	272	352	476	723	888	1399
1/4-20	0.246	[1]	[1]	[1]	[1]	[1]	[1]	[1]	529	753	1448
JT3 SCREWS											
10-16	0.189	41	66	83	93	153	226	262	495	582	876
12-14	0.215	[1]	30	53	73	133	188	188	413	455	583
12-24	0.215	[1]	[1]	[1]	[1]	[1]	[1]	310	359	526	1042
1/4-14	0.246	[1]	[1]	[1]	85	143	200	273	563	756	1355
1/4-20	0.246	[1]	[1]	[1]	[1]	[1]	[1]	[1]	399	583	1152

For **SI**: 1 inch = 25.4 mm, 1 lbf = 4.4 N, 1 ksi = 6.89 MPa.

[1] Outside drill capacity of fastener

[2] Values are based on steel members with a minimum tensile strength of Fu = 45 ksi.

[3] A reduction factor of ϕ = 0.5 has been applied to the design (LRFD) tensile pull-out loads. To calculate ASD values, divide by the LRFD reduction factor of 0.5 and divide again with the ASD safety factor of 3.0.

TABLE 4 — DESIGN (LRFD) TENSILE PULL-OVER LOADS (lbf)[2, 3]

Size & TPI	Head Style	Thickness of Steel in Contact with Screw Head									
		0.018 (26 G)	0.024 (24 G)	0.03 (22 G)	0.036 (20 G)	0.048 (18 G)	0.06 (16 G)	0.075 (14 G)	0.105 (12 G)	0.125 (1/8)	0.187 (3/16)
JT2 SCREWS											
10-16	Hex	241	322	402	482	643	804	1005	1407	1675	[1]
10-16	PPH	[1]	[1]	[1]	437	583	729	911	1276	1519	[1]
12-14	Hex	[1]	[1]	[1]	508	687	818	818	1116	1116	1116
12-14	HWH	[1]	[1]	[1]	574	822	1070	1127	1241	[1]	[1]
12-24	Hex	[1]	[1]	[1]	[1]	[1]	[1]	[1]	1268	[1]	1559
1/4-14	Hex	211	272	353	475	720	965	965	965	[1]	1278
1/4-14	HWH	211	272	353	[1]	[1]	[1]	[1]	[1]	[1]	[1]
1/4-14	2SPCH	[1]	[1]	[1]	728	949	1170	1447	1675	[1]	[1]
1/4-20	Hex	[1]	[1]	[1]	[1]	[1]	[1]	[1]	1787	[1]	1949
JT3 SCREWS											
10-16	Hex	191	308	452	487	674	745	745	745	771	803
10-16	PPH	[1]	317	408	498	678	678	678	678	[1]	[1]
10-16	PPCH	221	307	394	480	653	653	653	653	[1]	[1]
12-14	Hex	[1]	282	327	372	628	883	884	1056	1144	[1]
12-14	PUFH	[1]	170	271	372	574	574	574	832	[1]	[1]
12-14	BHT	[1]	271	319	366	461	556	675	675	675	848
12-24	Hex	[1]	[1]	[1]	[1]	[1]	[1]	[1]	1078	1078	1155
1/4-14	Hex	[1]	[1]	[1]	506	727	947	1223	1223	1223	1542
1/4-14	PUFH	67	142	217	292	443	593	593	593	593	1268
1/4-20	Hex	[1]	[1]	[1]	[1]	[1]	[1]	[1]	1353	1353	1483

For **SI**: 1 inch = 25.4 mm, 1 lbf = 4.4 N, 1 ksi = 6.89 MPa.

[1] Outside drill capacity of fastener

[2] Values are based on steel members with a minimum tensile strength of Fu = 45 ksi.

[3] A reduction factor of ϕ = 0.5 has been applied to the design (LRFD) tensile pull-over loads. To calculate ASD values, divide by the LRFD reduction factor of 0.5 and divide again with the ASD safety factor of 3.0.

TABLE 5A—JT2 DESIGN (LRFD) LAP SHEAR CAPACITY FOR SCREW CONNECTIONS (lbf) [2,3]

Size & TPI	Head Style	Bottom Steel Thickness		Thickness of Steel in Contact with Screw Head								
				0.018 (26 G)	0.024 (24 G)	0.03 (22 G)	0.036 (20 G)	0.048 (18 G)	0.06 (16 G)	0.075 (14 G)	0.105 (12 G)	0.125 (1/8)
10-16	Hex	0.018	(26 G)	86	86	86	86	86	86	86	[1]	[1]
		0.024	(24 G)	115	214	214	214	214	214	214	[1]	[1]
		0.03	(22 G)	121	249	249	249	249	249	249	[1]	[1]
		0.036	(20 G)	121	254	277	277	277	277	277	[1]	[1]
		0.048	(18 G)	121	254	343	343	506	506	506	[1]	[1]
		0.06	(16 G)	121	254	343	343	506	506	506	517	[1]
		0.075	(14 G)	121	273	343	343	506	506	531	[1]	[1]
		0.105	(12 G)	157	273	343	343	710	736	[1]	[1]	[1]
10-16	PPH	0.018	(26 G)	102	102	102	102	102	102	105	105	109
		0.024	(24 G)	146	146	217	217	217	217	217	217	217
		0.03	(22 G)	146	146	234	234	346	346	346	346	346
		0.036	(20 G)	146	146	288	288	356	356	356	356	356
		0.048	(18 G)	146	146	347	347	472	472	472	472	472
		0.06	(16 G)	146	146	347	347	472	472	472	491	[1]
		0.075	(14 G)	146	146	347	347	472	472	493	[1]	[1]
		0.105	(12 G)	146	146	347	347	648	678	[1]	[1]	[1]
12-14	Hex	0.018	(26 G)	105	105	105	105	105	105	105	105	129
		0.024	(24 G)	125	125	197	197	220	220	220	220	220
		0.03	(22 G)	158	158	239	239	316	316	316	316	316
		0.036	(20 G)	158	158	245	245	343	343	343	343	343
		0.048	(18 G)	207	207	390	390	446	446	671	671	671
		0.06	(16 G)	207	207	390	390	446	446	671	671	671

		0.075	(14 G)	207	207	518	518	706	706	706	706	706
		0.105	(12 G)	226	226	518	518	768	768	768	768	768
12-24	Hex	0.018	(26 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	116
		0.024	(24 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	183	183
		0.03	(22 G)	[1]	[1]	1sd	[1]	[1]	[1]	[1]	280	280
		0.036	(20 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	350	350
		0.048	(18 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	632	632
		0.06	(16 G)	[1]	[1]	[1]	[1]	[1]	[1]	678	678	678
		0.075	(14 G)	[1]	[1]	[1]	[1]	[1]	678	678	678	813
		0.105	(12 G)	[1]	317	467	467	888	888	888	888	888
1/4-14	Hex	0.018	(26 G)	83	83	83	98	98	98	108	108	113
		0.024	(24 G)	161	161	169	169	241	241	241	241	241
		0.03	(22 G)	161	161	213	213	241	241	241	241	241
		0.036	(20 G)	161	161	255	255	366	366	366	366	366
		0.048	(18 G)	171	171	388	388	423	423	629	629	629
		0.06	(16 G)	171	171	388	388	423	423	629	629	629
		0.075	(14 G)	171	171	388	388	714	714	714	714	1143
		0.105	(12 G)	171	171	388	388	852	852	1089	1089	[1]
1/4-14	3SPCH	0.018	(26 G)	106	106	106	106	121	121	121	121	127
		0.024	(24 G)	165	165	187	187	216	216	216	216	216
		0.03	(22 G)	167	167	265	265	276	276	276	276	276
		0.036	(20 G)	185	185	271	271	408	408	408	408	408
		0.048	(18 G)	185	185	437	437	512	512	658	658	719
		0.06	(16 G)	185	185	437	437	512	512	658	658	719
		0.075	(14 G)	208	208	494	494	796	796	796	796	1100
		0.105	(12 G)	233	233	494	494	859	859	1044	1044	[1]
1/4-20	Hex	0.018	(26 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	135
		0.024	(24 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	231	231
		0.03	(22 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	285	285
		0.036	(20 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	369	369
		0.048	(18 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	629	676
		0.06	(16 G)	[1]	[1]	[1]	[1]	[1]	[1]	885	885	885
		0.075	(14 G)	[1]	[1]	[1]	[1]	[1]	905	905	905	905
		0.105	(12 G)	[1]	313	433	565	1063	1063	1063	1063	1063

[1] Outside drill capacity of fastener

[2] Values are based on steel members with a minimum tensile strength of Fu = 45 ksi.

[3] A reduction factor of ϕ=0.5 has been applied to the design (LRFD) lap shear loads. To calculate ASD values, divide by the LRFD reduction factor of 0.5 and divide again with the ASD safety factor of 3.0.

TABLE 5B—JT3 DESIGN (LRFD) LAP SHEAR CAPACITY FOR SCREW CONNECTIONS (lbf)[2,3]

Size & TPI	Head Style	Bottom Steel Thickness		Thickness of Steel in Contact with Screw Head								
				0.018	0.024	0.03	0.036	0.048	0.06	0.075	0.105	0.125
				(26 G)	(24 G)	(22 G)	(20 G)	(18 G)	(16 G)	(14 G)	(12 G)	(1/8)
10-16	Hex	0.018	(26 G)	88	88	88	88	88	88	88	88	135
		0.024	(24 G)	88	88	88	88	88	88	88	88	135
		0.03	(22 G)	88	88	88	88	88	88	88	88	135
		0.036	(20 G)	88	88	88	88	88	88	88	88	135
		0.048	(18 G)	166	166	374	374	473	473	473	473	572
		0.06	(16 G)	166	166	374	374	473	473	473	[1]	[1]
		0.075	(14 G)	166	166	374	374	473	473	513	[1]	[1]
		0.105	(12 G)	166	166	376	376	696	[1]	[1]	[1]	[1]
10-16	PPH	0.018	(26 G)	107	107	110	110	110	110	110	110	114
		0.024	(24 G)	107	107	110	110	110	110	110	110	114
		0.03	(22 G)	107	107	110	110	110	110	110	110	114
		0.036	(20 G)	107	107	110	110	110	110	110	110	114
		0.048	(18 G)	164	164	352	352	352	352	352	352	429
		0.06	(16 G)	164	164	352	352	352	352	352	[1]	[1]
		0.075	(14 G)	164	164	352	352	352	352	352	[1]	[1]
		0.105	(12 G)	164	164	465	465	465	[1]	[1]	[1]	[1]
10-16	PPCH	0.018	(26 G)	89	89	89	89	89	89	89	89	89
		0.024	(24 G)	89	89	89	89	89	89	89	89	89
		0.03	(22 G)	89	89	89	89	89	89	89	89	89
		0.036	(20 G)	89	89	89	89	89	89	89	89	89
		0.048	(18 G)	178	178	399	399	399	399	399	399	464
		0.06	(16 G)	178	178	399	399	399	399	399	[1]	[1]
		0.075	(14 G)	178	178	399	399	399	399	399	[1]	[1]
		0.105	(12 G)	187	187	502	502	546	[1]	[1]	[1]	[1]
12-14	Hex	0.018	(26 G)	88	88	88	88	88	88	93	93	116
		0.024	(24 G)	88	88	88	88	88	88	93	93	116
		0.03	(22 G)	169	169	169	169	169	169	169	169	169
		0.036	(20 G)	169	169	169	169	169	169	169	169	169
		0.048	(18 G)	169	169	391	391	391	391	637	637	637
		0.06	(16 G)	169	169	391	391	391	391	637	637	637
		0.075	(14 G)	169	169	391	391	391	391	637	637	637
		0.105	(12 G)	181	181	414	414	719	719	719	719	753
12-14	PUFH	0.018	(26 G)	108	108	108	108	108	108	108	108	108
		0.024	(24 G)	108	108	108	108	108	108	108	108	108
		0.03	(22 G)	108	108	108	108	108	108	108	108	108
		0.036	(20 G)	108	108	108	108	108	108	108	108	108
		0.048	(18 G)	169	169	426	426	496	496	576	576	580
		0.06	(16 G)	169	169	426	426	496	496	576	[1]	[1]
		0.075	(14 G)	169	169	426	426	496	496	576	[1]	[1]
		0.105	(12 G)	169	169	443	443	871	871	[1]	[1]	[1]
12-14	BHT	0.018	(26 G)	106	106	106	106	106	106	106	106	116
		0.024	(24 G)	106	106	106	106	106	106	106	106	116
		0.03	(22 G)	106	106	106	106	106	106	106	106	116
		0.036	(20 G)	106	106	106	106	106	106	106	106	116
		0.048	(18 G)	219	219	396	396	438	438	512	512	601
		0.06	(16 G)	219	219	396	396	438	438	512	[1]	[1]
		0.075	(14 G)	219	219	396	396	438	438	[1]	[1]	[1]
		0.105	(12 G)	232	232	491	491	746	[1]	[1]	[1]	[1]

12-24	Hex	0.018	(26 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	111
		0.024	(24 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	211	211
		0.03	(22 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	309	309
		0.036	(20 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	453	453
		0.048	(18 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	527	742
		0.06	(16 G)	[1]	[1]	[1]	[1]	[1]	[1]	609	609	742
		0.075	(14 G)	[1]	[1]	[1]	[1]	[1]	663	663	663	742
		0.105	(12 G)	[1]	340	340	340	737	737	737	737	778
1/4-14	Hex	0.018	(26 G)	103	103	103	103	103	103	103	103	103
		0.024	(24 G)	103	103	103	103	103	103	103	103	103
		0.03	(22 G)	103	103	103	103	103	103	103	103	103
		0.036	(20 G)	103	103	103	103	103	103	103	103	103
		0.048	(18 G)	222	222	368	368	446	446	593	593	593
		0.06	(16 G)	222	222	368	368	446	446	717	997	[1]
		0.075	(14 G)	222	222	368	368	446	446	825	[1]	[1]
		0.105	(12 G)	257	257	437	437	921	921	[1]	[1]	[1]
1/4-14	PUFH	0.018	(26 G)	94	94	94	94	94	94	94	94	141
		0.024	(24 G)	94	94	94	94	94	94	94	94	141
		0.03	(22 G)	94	94	94	94	94	94	94	94	141
		0.036	(20 G)	94	94	94	94	94	94	94	94	141
		0.048	(18 G)	177	177	384	384	635	635	670	670	803
		0.06	(16 G)	177	177	384	384	635	635	670	[1]	[1]
		0.075	(14 G)	177	177	384	384	635	635	757	[1]	[1]
		0.105	(12 G)	177	177	384	384	869	[1]	[1]	[1]	[1]
1/4-20	Hex	0.018	(26 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	79
		0.024	(24 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	179	179
		0.03	(22 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	358	358
		0.036	(20 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	381	381
		0.048	(18 G)	[1]	[1]	[1]	[1]	[1]	[1]	[1]	799	859
		0.06	(16 G)	[1]	[1]	[1]	[1]	[1]	[1]	698	799	859
		0.075	(14 G)	[1]	[1]	[1]	[1]	[1]	743	743	799	859
		0.105	(12 G)	[1]	332	332	332	901	901	901	901	1113

[1] Outside drill capacity of fastener

[2] Values are based on steel members with a minimum tensile strength of Fu = 45 ksi.

[3] A reduction factor of ϕ=0.5 has been applied to the design (LRFD) lap shear loads. To calculate ASD values, divide by the LRFD reduction factor of 0.5 and divide again with the ASD safety factor of 3.0.

DIVISION: 05 00 00 — METALS
Section: 05 05 23 — Metal Fastenings

REPORT HOLDER:

EJOT FASTENING SYSTEMS, L.P.

EVALUATION SUBJECT:

EJOT JT2 CARBON STEEL AND JT3 BI-METAL SELF-DRILLING SCREWS FOR STEEL-TO-STEEL CONNECTIONS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the EJOT JT2 Carbon Steel and EJOT JT3 Bi-metal Self-Drilling Screws, described in ICC-ES evaluation report ESR-4849, have also been evaluated for compliance with the codes noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

Applicable code editions:

- 2023 *City of Los Angeles Building Code* (LABC)
- 2023 *City of Los Angeles Residential Code* (LARC)

2.0 CONCLUSIONS

The EJOT JT2 Carbon Steel and EJOT JT3 Bi-metal Self-Drilling Screws, described in Sections 2.0 through 7.0 of the evaluation report ESR-4849, comply with the LABC Chapter 22, and the LARC, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The EJOT JT2 Carbon Steel and EJOT JT3 Bi-metal Self-Drilling Screws described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report ESR-4849.
- The design, installation, conditions of use and identification of the EJOT JT2 Carbon Steel and EJOT JT3 Bi-metal Self-Drilling Screws are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report ESR-4849.
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16 and 17, as applicable.
- Under the LARC, an engineered design in accordance with LARC Section R301.1.3 must be submitted.

This supplement expires concurrently with the evaluation report.

DIVISION: 05 00 00 — METALS
Section: 05 05 23 — Metal Fastenings

REPORT HOLDER:

EJOT FASTENING SYSTEMS, L.P.

EVALUATION SUBJECT:

EJOT JT2 CARBON STEEL AND JT3 BI-METAL SELF-DRILLING SCREWS FOR STEEL-TO-STEEL CONNECTIONS

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Purpose:

The purpose of this evaluation report supplement is to indicate that the EJOT JT2 Carbon Steel and EJOT JT3 Bi-metal Self-Drilling Screws, described in ICC-ES evaluation report ESR-4849, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2023 *Florida Building Code—Building*
- 2023 *Florida Building Code—Residential*

2.0 CONCLUSIONS

The EJOT JT2 Carbon Steel and EJOT JT3 Bi-metal Self-Drilling Screws, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-4849, comply with the *Florida Building Code – Building* and *Florida Building Code – Residential.* The design requirements must be determined in accordance with the *Florida Building Code-Building* or the *Florida Building Code-Residential,* as applicable. The installation requirements noted in ICC-ES evaluation report ESR-4849 for the 2021 *International Building Code®* meet the requirements of the *Florida Building Code-Building* or the *Florida Building Code-Residential.*

Use of the EJOT JT2 Carbon Steel and EJOT JT3 Bi-metal Self-Drilling Screws for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code-Building* or the *Florida Building Code-Residential* have not been evaluated, and is outside the scope of this supplemental report.

For products falling under Florida Rule 61G20-3, 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 evaluation report.