

ICC-ES Evaluation Report

ESR-4638

Reissued August 2024


This report also contains:

Subject to renewal August 2025

- CBC Supplement
- CHI Supplement
- LABC Supplement

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<p>DIVISION: 03 00 00— CONCRETE</p> <p>Section: 03 15 19—Cast- in Concrete Anchors</p> <p>Section: 03 16 00— Concrete Anchors</p>	<p>REPORT HOLDER: GRIPPLE INC.</p>	<p>EVALUATION SUBJECT: GRIPPLE THREADED CONCRETE INSERT – WOOD FORM (TCI-WF) AND THREADED CONCRETE INSERT – METAL DECK (TCI-MD)</p>	
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1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021 and 2018 [International Building Code® \(IBC\)](#)
- 2021 and 2018 [International Residential Code® \(IRC\)](#)

For evaluation for compliance with codes adopted by [Los Angeles Department of Building and Safety \(LADBS\)](#), see [ESR-4638 LABC and LARC Supplement](#).

For evaluation for compliance with codes adopted by the California Office of Statewide Health Planning and Development (OSHPD) and Division of State Architects (DSA), see [ESR-4638 CBC and CRC Supplement](#).

Property evaluated:

- Structural

2.0 USES

The Gripple TCI Wood Form (TCI-WF) and TCI Metal Deck (TCI-MD) insert receivers, are used as an insert to attach architectural, mechanical, electrical and similar systems that are not part of the primary load bearing or lateral-force resisting systems of a structure (i.e. non-structural components) to resist static, wind, and seismic (Seismic Design Categories A through F) vertical tension loads in cracked and uncracked normal-weight concrete lightweight concrete having a specified compressive strength, f'_c , of 3,000 psi to 6,500 psi (20.7 MPa to 44.8 MPa), and the soffit of cracked and uncracked normal-weight concrete, lightweight concrete and sand light-weight concrete on steel deck having a specified compressive strength, f'_c , of 3,000 psi to 6,500 psi (20.7 MPa to 44.8 MPa).

Reference to “insert receivers” in this report refers to the Gripple TCI Wood Form or TCI Metal Deck used in concrete; reference to “insert elements” refers to the commonly available threaded fasteners such as threaded rods, bolts, etc.; reference to “insert assembly” in this report refers to the installed insert receivers in concrete with insert elements.

The insert assembly is considered an alternative material to cast-in anchors under Section 104.11 of the IBC. The insert assembly may also be used where an engineered design is submitted in accordance with Section R301.1.3 of the IRC.

3.0 DESCRIPTION

3.1 Insert Assembly: The insert assembly consists of an insert receiver (TCI-WF or TCI-MD) and an insert element (Threaded rod, bolt etc.).

3.2 Insert Receivers:

3.2.1 TCI Wood Form (TCI-WF): The TCI-WF as illustrated in [Figure 1](#) consists of an injection molded Acrylonitrile Butadiene Styrene (ABS) plastic body, carbon steel internally threaded core and two wood nails for attachment to the concrete wood form. The hole in the bottom of the insert receiver allows attachment of the threaded insert element (see Sections 3.3.1 of this report). TCI-WF comes in 2 sizes that accept $\frac{3}{8}$ inch and $\frac{1}{2}$ inch (9.5 mm and 12.7 mm) UNC threaded fasteners. They are individually specified as TCI-WF-3/8 and TCI-WF-1/2 respectively.

3.2.2 TCI Metal Deck (TCI-MD): The TCI-MD as illustrated in [Figure 2](#) consists of an injection molded Acrylonitrile Butadiene Styrene (ABS) plastic body and a carbon steel internally threaded core. The plastic body has a hole at the bottom with an extended tubular portion that extends beyond the bottom surface of the metal deck. The base of the TCI-MD body has two holes for attachment to the metal deck using two #8 screws. The hole in the bottom allows attachment of the insert element (see Section 3.3.1). TCI-MD comes in 2 sizes that accept $\frac{3}{8}$ inch and $\frac{1}{2}$ inch (9.5 mm and 12.7 mm) UNC threaded fasteners. They are individually specified as TCI-MD-3/8 and TCI-MD-1/2 respectively.

3.2.2.1 TCI-MD Spanning Bracket: The TCI-MD may be installed on the upper flute with a spanning bracket as shown in [Figure 6](#). The spanning bracket is a $\frac{3}{16}$ -inch (4.76 mm) thick carbon steel bracket which allows TCI-MD to be installed in between the upper flute level as illustrated in [Figures 5A](#) and [5B](#).

3.3 Insert Elements:

3.3.1 Threaded Steel Rods (by others): Threaded steel rods – all thread (supplied by others) can be threaded into the TCI-WF and TCI-MD. Governing design strength values given in [Tables 2](#) and [4](#) are applicable to insert assembly with threaded rods made to ASTM A36, ASTM F1554 Gr.105, ASTM A193 or other equivalent steel grade. Carbon steel threaded rods must be furnished with a minimum 5.1 μ m (0.0002 inch) zinc plating.

3.3.2 Threaded Seismic Adapter (by others):

The threaded seismic adapter as illustrated in [Figure 9](#) consists of a threaded rod in accordance with Section 3.3.1, locking nut (by others) and diagonal bracket (by others).

3.4 Concrete:

Normal-weight and lightweight concrete must conform to Sections 1903 and 1905 of the IBC.

3.5 Steel Deck Panels:

Steel deck panels must be in accordance with the configuration in [Figures 5A](#) and [5B](#) and have a minimum base steel thickness of 22 gage [0.029 inch (0.759 mm)]. Steel must comply with ASTM A653/A653M SS Grade 50 minimum and have a minimum yield strength of 50,000 psi (345 MPa).

4.0 DESIGN AND INSTALLATION

4.1 Strength Design:

4.1.1 General: The design strength values given in this report are an alternative to cast-in anchors described in Section 1901.3 of the 2021, 2018 and 2015 IBC, or Section 1908 and 1909 of the 2012 IBC, as applicable.

The governing design strength values of the insert assembly in uncracked concrete are given in [Tables 2](#) and [4](#) of this report for static vertical tension loads, and [Tables 3](#) and [5](#) of this report for diagonal static tension loads.

The governing design strength values of the insert assembly in cracked concrete are given in [Tables 2](#) and [4](#) of this report for seismic vertical tension loads, and [Tables 3](#) and [5](#) of this report for diagonal seismic tension loads.

A strength reduction factor, ϕ , of 0.65 has been applied to the design strength in [Tables 2](#), [3](#), [4](#), and [5](#) for use with load combinations calculated in accordance with Section 1605.1 of the 2021 IBC, 1605.2 of the 2018 IBC or Section 5.3 of ACI 318, as applicable.

4.1.2 Requirements for Insert Assembly Attachment: The design of the attachment to the threaded rod (by others) and aircraft cable (by others) are beyond the scope of this report and must be designed by a registered professional.

4.1.3 Requirements for Insert Assembly for Seismic Applications: The design of the seismic bracket (by others), and attachment to the threaded rod (by others) or seismic bracket (by others) to resist seismic vertical loads or diagonal seismic tension loads are beyond the scope of this report and must be designed by a registered professional.

4.1.4 Requirements for Member Thickness, Edge Distance and Spacing: The requirements for minimum member thickness, minimum edge distance and minimum spacing as given in [Table 1](#) of this report must apply.

4.2 Allowable Stress Design (ASD):

4.2.1 General: Design values for use with allowable stress design (working stress design) load combinations calculated in accordance with Section 1605.1 of the 2021 IBC or Section 1605.3 of the 2018 IBC, must be established as follows:

$$T_{allowable,ASD} = \phi N_n / \alpha \quad (\text{Eq. 4-1})$$

where

$T_{allowable,ASD}$ = Allowable tension load (lbf or kN).

ϕN_n = Lowest design strength of the insert assembly in tension or oblique tension as given in [Tables 2, 3, 4](#) and [5](#) (lbf or kN).

α = Conversion factor calculated as a weighted average of the load factors for the controlling load combination. In addition, α must include all applicable factors to account for non-ductile failure modes and required over-strength.

The requirements for member thickness, edge distance and spacing, described in this report must apply.

4.3 Installation:

4.3.1 Insert Receivers:

4.3.1.1 TCI Wood Form (TCI-WF): The installation parameters are provided in [Table 1](#). The insert receiver must be positioned on the wood formwork ensuring that the belly and nails of the TCI-WF are in contact. The nails must receive impact from a sufficient force in order to drive them fully into the wood until the plastic belly sits flush against the form, as illustrated in [Figure 7](#). Refer to [Figure 7](#) for step by step installation instructions.

TCI-WF insert receivers in oblique tension applications shall be installed in accordance with [Table 3](#) and [Figure 9](#).

4.3.1.2 TCI Metal Deck (TCI-MD): The installation parameters are provided in [Table 1](#). The insert receivers are installed into a predrilled hole cut into the metal deck. The insert receiver must be positioned on the metal deck flute ensuring that the TCI-MD, plastic tube, and screws are in contact with the metal deck. The plastic tube is pushed through the hole drilled in the metal deck. The screws must be fastened with sufficient torque in order to fully drive them into the metal deck until the rubber head and plastic tube sit flush against the metal deck, as illustrated in [Figure 8](#). Refer to [Figure 8](#) for step by step installation instructions.

TCI-MD insert receivers in oblique tension applications shall be installed in accordance with [Table 5](#) and [Figure 9](#).

4.4 Special Inspection:

Periodic special inspection is required in accordance with Section 1705.1.1 and Table 1705.3 of the IBC. The special inspector must make periodic inspections during installation of the insert receiver to verify insert receiver type, concrete type, concrete compressive strength, insert receiver spacing, edge distances, concrete member thickness, insert elements fully engaged into insert receiver, and adherence to the manufacturer's printed installation instructions. The special inspector must be present as often as required in accordance with the "statement of special inspection."

5.0 CONDITIONS OF USE:

The Gripple insert assembly described in this report comply with, or are a suitable alternative to what is specified in those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1** Insert assemblies must be installed in accordance with the manufacturer's printed installation instructions (MPII) and this report. In case of conflict, this report governs.
- 5.2** Insert receivers must be limited to use in cracked and uncracked normal-weight and lightweight concrete having a specified compressive strength, f'_c , of 3,000 psi to 6,500 psi (20.7 MPa to 44.8 MPa).

- 5.3 Insert receivers must be limited to use in the soffit of cracked and uncracked normal-weight concrete, lightweight concrete and sand lightweight concrete on steel deck having a specified compressive strength, f'_c , of 3,000 psi to 6,500 psi (20.7 MPa to 44.8 MPa).
- 5.4 Strength design values must be established in accordance with Section 4.1 of this report.
- 5.5 Allowable design values are established in accordance with Section 4.2.
- 5.6 Insert receiver spacing and edge distance as well as minimum member thickness must be in accordance with [Table 1](#) of this report.
- 5.7 Since an ICC-ES acceptance criteria for evaluating data to determine the performance of the insert assembly subjected to fatigue or shock loading is unavailable at this time, the use of these inserts under such conditions is beyond the scope of this report.
- 5.8 Insert assemblies may be used to resist short-term loading due to wind or seismic forces in locations designated as Seismic Design Categories A, B, C, D, E and F of the IBC, subject to the conditions of this report.
- 5.9 Where not otherwise prohibited in the code, insert assembly are permitted for use with fire-resistance-rated construction.
- 5.10 The diagonal bracket with locking nut and washer (by others) must be attached directly below the insert assembly and in full contact with the concrete / deck for diagonal seismic bracing and oblique tension applications as illustrated in [Figure 3](#). The design of the diagonal bracket is beyond the scope of this report.
- 5.11 Use of insert assemblies is limited to supporting non-structural components.
- 5.12 Calculations and details, justifying the use of the products is in compliance with the applicable code and the evaluation report, must be submitted to the code official for approval. The calculations and details must include additional lateral bracing to provide a complete load path as part of the component design. The calculations and details must be prepared by a registered design professional where required by the statutes of the jurisdiction which the project is to be constructed.
- 5.13 Special inspection must be provided in accordance with Section 4.4.
- 5.14 Insert assemblies are manufactured under an approved quality control program with inspections by ICC-ES.
- 5.15 Insert elements are supplied by others and shall meet the requirements in accordance with Section 3.1. Use
- 5.16 Insert receiver's load in oblique tension applications shall be transferred by steel aircraft cable with values and sizes in accordance with [Tables 3](#) and [5](#), at a maximum angle from vertical of 60 degrees as illustrated in [Figure 3](#).
- 5.17 Vertical compression loads must be transferred directly to the concrete by bearing and not through the cast-in insert.

6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with the [ICC-ES Acceptance Criteria for Cast-in Insert Assemblies in Concrete \(AC502\)](#), dated June 2020 (editorially revised July 2021).
- 6.2 Quality-control documentation.

7.0 IDENTIFICATION

- 7.1 Product labeling shall include, the name of the report holder or listee, and the ICC-ES mark of conformity. The listing or evaluation report number (ICC-ES ESR-4638) may be used in lieu of the mark of conformity. The Gripple TCI Wood Form (TCI-WF) and Gripple TCI Metal Deck (TCI-MD) insert receivers are identified by packaging labeled with the manufacturer's name (Gripple Inc.), insert receiver name, lot number and evaluation report number (ESR-4638).
- 7.2 The report holder's contact information is the following:

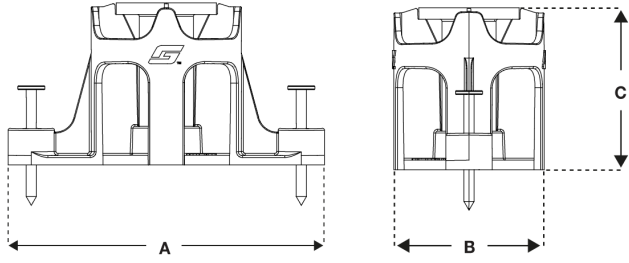
GRIPPLE INC.
1611 EMILY LANE
AURORA, ILLINOIS 60502
(630) 952-2111
www.gripple.com

TABLE 1—GRIPPLE TCI-WF AND TCI-MD CAST-IN INSERT RECEIVERS INSTALLATION INFORMATION¹

DESIGN INFORMATION	SYMBOL	UNITS	INSERT RECEIVER			
			TCI-WF		TCI-MD	
			³ / ₈ -inch thread	¹ / ₂ -inch thread	³ / ₈ -inch thread	¹ / ₂ -inch thread
Minimum concrete member thickness	h_{min}	in. (mm)	³ (76.2)		See Figure 5A and 5B	
Overall height of insert receiver / Embedment Depth	C / h_{emb}	in. (mm)	1.65 (42)	2.0 (50.8)	2.4 (60)	2.75 (70)
Overall length x width of insert receiver	$A \times B$	in. (mm)	3.25 x 1.5 (82 x 39)		3.25 x 1.5 (82.55 x 38)	
Minimum insert receiver clear edge distance	c_{min}	in. (mm)	3.31 (84)	3.31 (84)	3.31 (84)	3.31 (84)
Minimum insert receiver clear spacing	s_{min}	in. (mm)	6.61 (168)	6.61 (168)	6.61 (168)	6.61 (168)
Length of insert receiver tube	l_{tube}	in. (mm)	NA		0.75 (12.7)	

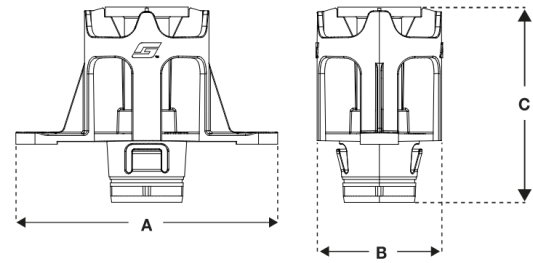
For **SI**: 1 inch = 25.4 mm. For **pound-inch** units: 1 mm = 0.03937 inch.

¹See [Figures 4](#), [5A](#) and [5B](#) for illustration.



Dimension	inches	
	3/8" thread	1/2" thread
A	3.23	3.23
B	1.53	1.53
C	1.65	2

FIGURE 1—TCI-WF INSERT RECEIVER



Dimension	inches	
	3/8" thread	1/2" thread
A	3.23	3.23
B	1.53	1.53
C	2.4	2.75

FIGURE 2—TCI-MD INSERT RECEIVER

TABLE 2—TCI-WF INSERT ASSEMBLY TENSION DESIGN INFORMATION IN CONCRETE^{3,4,5}

INSERT RECIEVER	CONCRETE		ϕN_n , GOVERNING TENSION DESIGN STRENGTH, lbf	
			³ / ₈ -inch thread	¹ / ₂ -inch thread
TCI-WF	Low Strength ¹	Uncracked	930	935
		Cracked ⁶	665	700
	High Strength ²	Uncracked	930	935
		Cracked ⁶	665	700

For SI: 1 inch = 25.4 mm, 1 pound = 0.00445 kN, 1 in² = 645.2 mm². For pound-inch unit: 1 mm = 0.03937 inches.

¹Concrete compressive strength, f_c = 3,000 psi minimum normal-weight concrete for TCI-WF.

²Concrete compressive strength, f_c = 6,500 psi minimum normal-weight concrete for TCI-WF.

³The insert assembly tension design strength, ϕN_n , has been multiplied by the strength reduction factor, ϕ , of 0.65.

⁴Values are in accordance with ACI-318 for the condition where supplementary reinforcement is not provided.

⁵Edge distance and spacing must meets the requirements in [Table 1](#).

⁶Values are applicable for Seismic Design Categories C, D, E and F application.

TABLE 3—TCI-WF INSERT ASSEMBLY DIAGONAL TENSION DESIGN INFORMATION IN CONCRETE^{3,4,5}

INSERT RECIEVER	CONCRETE		ϕN_n , GOVERNING DIAGONAL TENSION DESIGN STRENGTH, lbf			
			³ / ₈ -inch thread		¹ / ₂ -inch thread	
			Cable #2 (5/64 inch diameter)	Cable #3 (1/8 inch diameter)	Cable #2 (5/64 inch diameter)	Cable #3 (5/64 inch diameter)
TCI-WF	Low Strength ¹	Uncracked	410	770	410	770
		Cracked ⁶	410	770	410	770
	High Strength ²	Uncracked	410	770	410	770
		Cracked ⁶	410	770	410	770

¹Concrete compressive strength, f_c = 3,000 psi minimum normal-weight concrete for TCI-WF.

²Concrete compressive strength, f_c = 6,500 psi minimum normal-weight concrete for TCI-WF.

³The insert assembly tension design strength, ϕN_n , has been multiplied by the strength reduction factor, ϕ , of 0.65.

⁴Values are in accordance with ACI-318 for the condition where supplementary reinforcement is not provided.

⁵Edge distance and spacing meets the requirements in [Table 1](#).

⁶Values are applicable for Seismic Design Categories C, D, E and F application.

TABLE 4—TCI-MD INSERT ASSEMBLY TENSION DESIGN INFORMATION IN CONCRETE OVER METAL DECK^{3,4,5}

INSERT RECIEVER	CONCRETE		ϕN_n , GOVERNING TENSION DESIGN STRENGTH, lbf	
			³ / ₈ inch thread	¹ / ₂ inch thread
TCI-MD	Low Strength ¹	Uncracked	825	855
		Cracked ⁶	575	675
	High Strength ²	Uncracked	825	855
		Cracked ⁶	575	675

For SI: 1 inch = 25.4 mm, 1 pound = 0.00445 kN, 1 in² = 645.2 mm². For pound-inch unit: 1 mm = 0.03937 inches.

¹Concrete compressive strength, f_c = 3,000 psi minimum sand lightweight, light-weight, and normal weight concrete for TCI-MD.

²Concrete compressive strength, f_c = 6,500 psi minimum sand lightweight, light-weight, and normal weight concrete for TCI-MD.

³The insert assembly tension design strength, ϕN_n , has been multiplied by the strength reduction factor, ϕ , of 0.65.

⁴Values are in accordance with ACI-318 for the condition where supplementary reinforcement is not provided.

⁵Edge distance and spacing meets the requirements in [Table 1](#).

⁶Values are applicable for Seismic Design Categories C, D, E and F application.

TABLE 5—TCI-MD INSERT ASSEMBLY DIAGONAL TENSION DESIGN INFORMATION IN CONCRETE OVER METAL DECK^{3,4,5}

INSERT RECIEVER	CONCRETE		ϕN_n , GOVERNING DIAGONAL TENSION DESIGN STRENGTH, lbf			
			³ / ₈ -inch thread		¹ / ₂ -inch thread	
			Cable #2 (5/64 inch diameter)	Cable #3 (1/8 inch diameter)	Cable #2 (5/64 inch diameter)	Cable #3 (5/64 inch diameter)
TCI-MD	Low Strength ¹	Uncracked	410		410	
		Cracked ⁶	410		410	
	High Strength ²	Uncracked	410		410	
		Cracked ⁶	410		410	

¹Concrete compressive strength, $f'_c = 3,000$ psi minimum sand lightweight, light-weight, and normal weight concrete for TCI-MD.
²Concrete compressive strength, $f'_c = 6,500$ psi minimum sand lightweight, light-weight, and normal weight concrete for TCI-MD.
³The insert assembly design strength, ϕN_n , has been multiplied by the strength reduction factor, ϕ , of 0.65.
⁴Values are in accordance with ACI-318 for the condition where supplementary reinforcement is not provided.
⁵Edge distance and spacing meets the requirements in [Table 1](#).
⁶Values are applicable for Seismic Design Categories C, D, E and F application.

TABLE 6—EXAMPLE ASD ALLOWABLE TENSION DESIGN VALUES (lbs) FOR TCI-WF AND TCI-MD INSERT ASSEMBLIES FOR ILLUSTRATIVE PURPOSES^{1,2,3,4,5,6}

INSERT RECIEVER	CONCRETE		GOVERNING ALLOWABLE TENSION IN CONCRETE, lb		
			³ / ₈ -inch thread	¹ / ₂ -inch thread	
TCI-WF	Low Strength	Cracked	475	500	
INSERT RECIEVER	CONCRETE OVER METAL DECK		GOVERNING ALLOWABLE TENSION IN CONCRETE OVER METAL DECK, lb		
			³ / ₈ -inch thread	¹ / ₂ -inch thread	
TCI-MD	Figure 5A	$f'_c = 3,000$ psi	Cracked	410	480

For SI: 1 inch = 25.4 mm, 1 pound = 0.00445 kN, 1 in² = 645.2 mm². For pound-inch unit: 1 mm = 0.03937 inches.

¹Concrete compressive strength, $f'_c = 2,500$ psi minimum normal-weight concrete for TCI-WF, $f'_c = 3,000$ psi minimum sand lightweight concrete for TCI-MD, cracked concrete.
²Load combinations from ACI 318 5.3, as applicable.
³For non-structural component applications, the load is 100% dead load and 0% live load. Therefore, the controlling load combination is 1.4D.
⁴Calculation of the weighted average for $\alpha = 1 * 1.4 = 1.40$.
⁵Edge distance and spacing meets the requirements in [Table 1](#).
⁶Values are for Condition B where supplementary reinforcement in accordance with ACI 318-17.5.3 and ACI 318-14 17.3.3 is not provided.

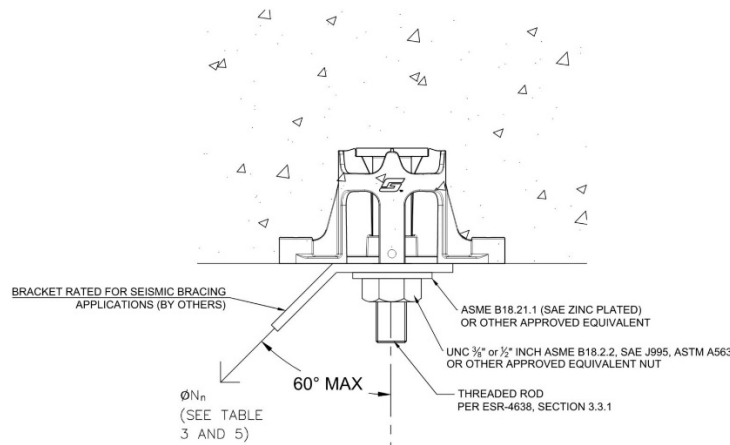


FIGURE 3—TCI INSERT ASSEMBLY FOR SEISMIC BRACING ANCHOR APPLICATION

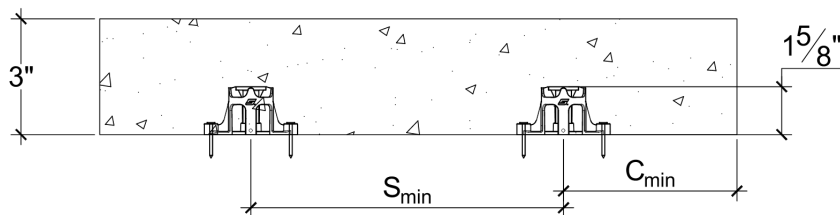


FIGURE 4—TCI-WF IN CONCRETE SLAB

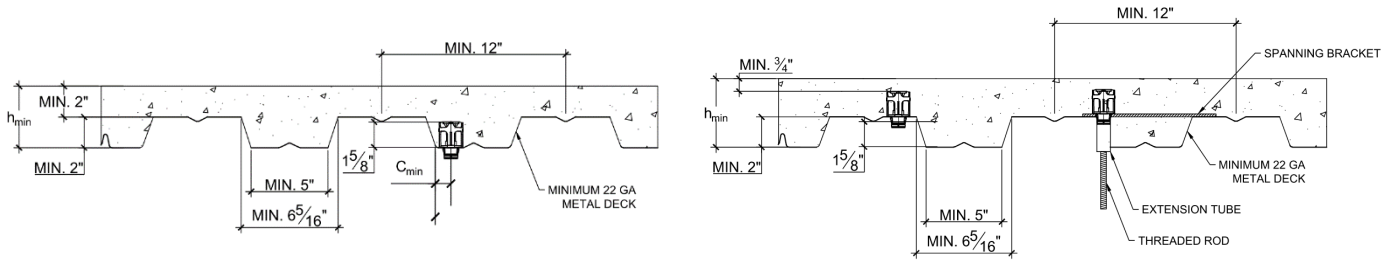


FIGURE 5A—TCI-MD IN CONCRETE OVER 2" PROFILE METAL DECK (LEFT UPPER FLUTE, RIGHT LOWER FLUTE)

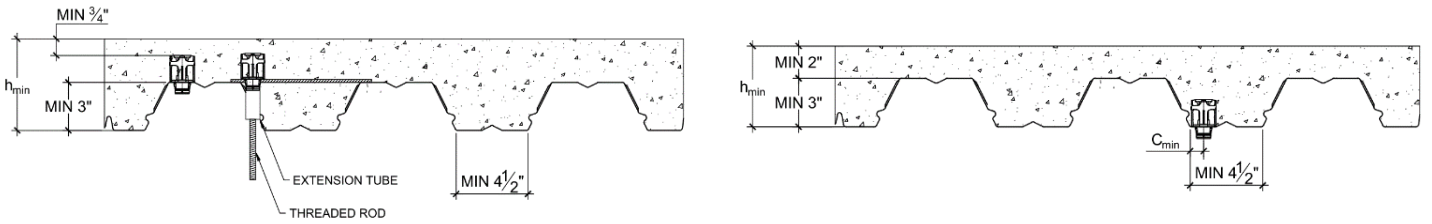


FIGURE 5B—TCI-MD IN CONCRETE OVER 3" PROFILE METAL DECK (LEFT UPPER FLUTE, RIGHT LOWER FLUTE)

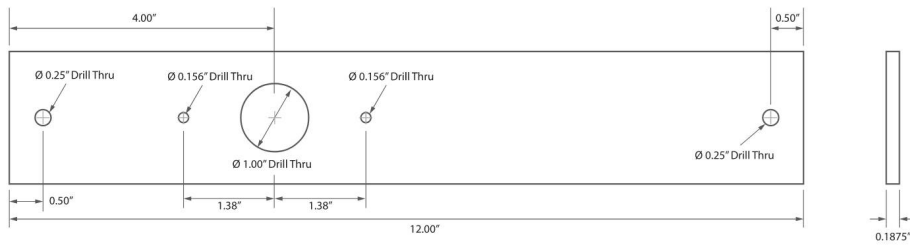


FIGURE 6—TCI-MD SPANNING BRACKET

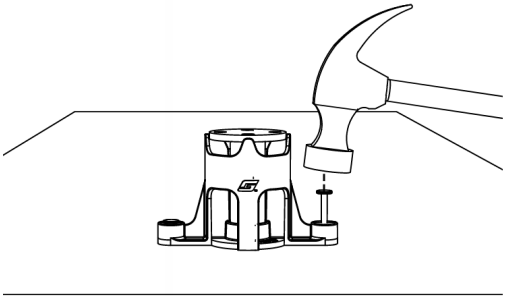
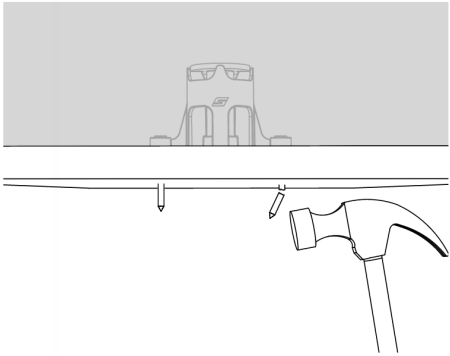
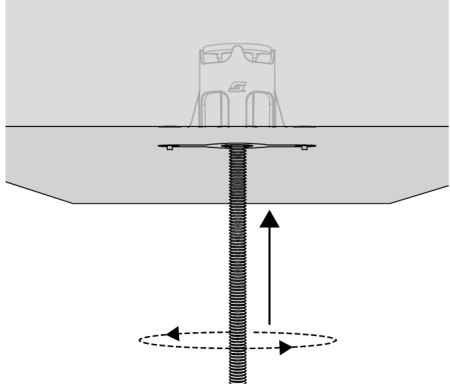
	INSTALLATION STEPS	ILLUSTRATION
1	<p>Attach the Gripple TCI-WF Insert receiver to the wood form using nails. You can also use Gripple WF installation tool to position and secure the insert receiver.</p>	
2	<p>Pour concrete and cure it till it achieves required minimum compressive strength as specified within this report. Remove the nails once the concrete is cured.</p>	
3	<p>Remove the wood form and thread in appropriately sized threaded rod depending on the TCI-WF model until the TCI-WF is fully engaged with rod</p>	

FIGURE 7—GRIPPLE TCI-WF INSTALLATION INSTRUCTIONS

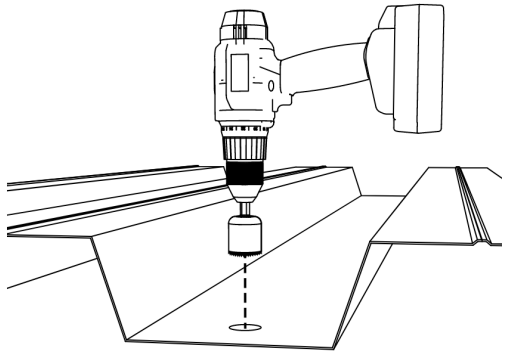
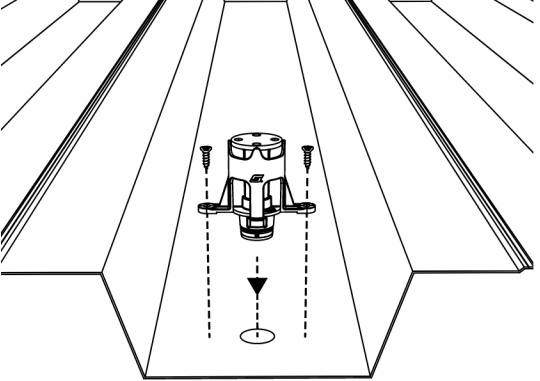
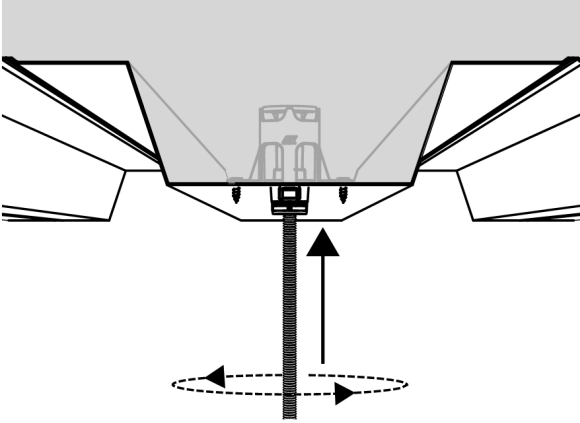
	INSTALLATION STEPS	ILLUSTRATION
1	Drill 1 inch diameter hole in the Metal Deck in accordance with the installation location	
2	Insert Gripple TCI-MD through this hole and Secure the insert receiver to the deck using two #8 screws	
3	<p>Pour the concrete and let it cure to the required minimum compressive strength as recommended in this report.</p> <p>Thread in appropriately sized threaded rod depending on the TCI-MD model until the TCI-MD is fully engaged with rod</p>	

FIGURE 8—GRIPPLE TCI-MD INSTALLATION INSTRUCTIONS

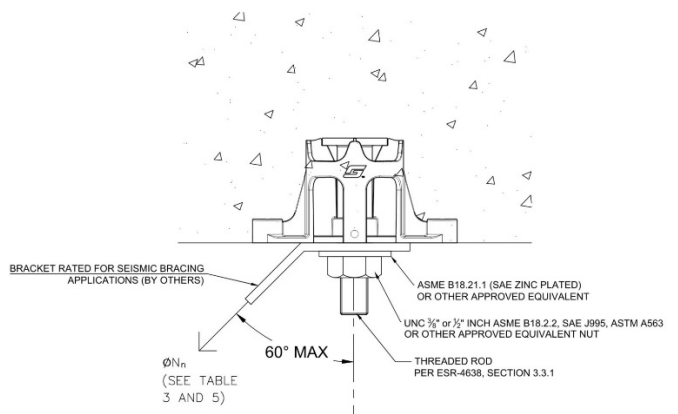
	INSTALLATION STEPS	ILLUSTRATION
1	<p>1.1 Install the TCI-WF / TCI-MD insert receiver per installation instructions in Figure 7 / Figure 8 as applicable.</p> <p>1.2 For TCI-MD only: Break the plastic tube at the bottom and remove it completely.</p> <p>1.3 Insert seismic brace attachment bracket (by others) into the threaded rod. Set the bracket in full contact with concrete / deck.</p> <p>1.5 Lock the rod in its position by using a structural grade 3/4 inch nut and washer as shown in the figure.</p>	

FIGURE 9—OBLIQUE TENSION INSTALLATION INSTRUCTIONS

DIVISION: 03 00 00—CONCRETE
Section: 03 15 19—Cast-in Concrete Anchors
Section: 03 16 00—Concrete Anchors

REPORT HOLDER:

GRIPPLE INC.

EVALUATION SUBJECT:**GRIPPLE THREADED CONCRETE INSERT – WOOD FORM (TCI-WF) AND THREADED CONCRETE INSERT – METAL DECK (TCI-MD)****1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that the Gripple Threaded Concrete insert TCI-WF Wood Form and TCI-MD Metal Deck, described in ICC-ES evaluation report [ESR-4638](#), 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:

- 2020 *City of Los Angeles Building Code* (LABC)
- 2020 *City of Los Angeles Residential Code* (LARC)

2.0 CONCLUSIONS

The Gripple Threaded Concrete insert TCI-WF Wood Form and TCI-MD Metal Deck, described in Sections 2.0 through 7.0 of the evaluation report [ESR-4638](#), comply with LABC Chapter 19, and LARC, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The Gripple Threaded Concrete insert TCI-WF Wood Form and TCI-MD Metal Deck described in this evaluation report must comply with all of the following conditions:

- All applicable sections in the master evaluation report [ESR-4638](#).
- The design, installation, conditions of use and labeling of the Gripple Threaded Concrete insert TCI-WF Wood Form and TCI-MD Metal Deck are in accordance with the 2018 *International Building Code*® provisions noted in the evaluation report [ESR-4638](#).
- 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.
- The allowable and strength design values listed in the evaluation report and tables are for the connection of the cast-in specialty inserts to the concrete. The connection between the cast-in specialty inserts and the connected members shall be checked for capacity (which may govern).

This supplement expires concurrently with the evaluation report, reissued August 2024.

DIVISION: 03 00 00—CONCRETE
Section: 03 15 19—Cast-in Concrete Anchors
Section: 03 16 00—Concrete Anchors

REPORT HOLDER:

GRIPPLE INC.

EVALUATION SUBJECT:**GRIPPLE THREADED CONCRETE INSERT – WOOD FORM (TCI-WF) AND THREADED CONCRETE INSERT – METAL DECK (TCI-MD)****1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that the Gripple Threaded Concrete insert TCI-WF Wood Form and TCI-MD Metal Deck, described in ICC-ES evaluation report ESR-4638, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2019 *California Building Code* (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2019 *California Residential Code* (CRC)

2.0 CONCLUSIONS

The Gripple Threaded Concrete insert TCI-WF Wood Form and TCI-MD Metal Deck, described in Sections 2.0 through 7.0 of the evaluation report ESR-4638, comply with CBC Chapter 19 and CRC Section R301.1.3, provided the design and installation are in accordance with the 2018 *International Building Code*® (IBC), as applicable, provisions noted in the evaluation report, and the additional inspection requirements of the CBC Sections 16 and 17.

2.1 OSHPD:

The Gripple Threaded Concrete insert TCI-WF Wood Form and TCI-MD Metal Deck, described in Sections 2.0 through 7.0 of the evaluation report ESR-4638, comply with CBC amended Sections in Chapters 16, 17 and 19, and Chapters 16A, 17A and 19A, provided the design and installation are in accordance with the 2018 *International Building Code*® (IBC), as applicable, provisions noted in the evaluation report, and the following additional requirements:

- Periodic special inspection is required, in accordance with Section 1705.1.1 and Table 1705.3 [OSHPD 1R, 2 and 5], or Section 1705A.1.1, and Table 1705A.3 [OSHPD 1 & 4] of the CBC, as applicable. In addition, special inspection is required for special seismic certification for designated seismic system in accordance with amended Section 1705.13.3.1 [OSHPD 1R, 2 and 5] and Section 1705A.12.4 [OSHPD 1 & 4] of the CBC, as applicable.

2.2 DSA:

The Gripple Threaded Concrete insert TCI-WF Wood Form and TCI-MD Metal Deck, described in Sections 2.0 through 7.0 of the evaluation report ESR-4638, comply with CBC amended Sections in Chapters 16 and 19, and Chapters 16A, 17A and 19A, provided the design and installation are in accordance with the 2018 *International Building Code*® (IBC), as applicable, provisions noted in the evaluation report, and the following additional requirements:

- Periodic special inspection is required, in accordance with Section 1705A.1.1, and Table 1705A.3 [DSA-SS, DSA-SS/CC] of the CBC. In addition, special inspection is required for special seismic certification for designated seismic system in accordance Section 1705A.12.4 [DSA-SS, DSA-SS/CC] of the CBC, as applicable.

This supplement expires concurrently with the evaluation report, reissued August 2024.

DIVISION: 03 00 00—CONCRETE**Section: 03 15 19—Cast-in Concrete Anchors****Section: 03 16 00—Concrete Anchors****REPORT HOLDER:****GRIPPLE INC.****EVALUATION SUBJECT:****GRIPPLE THREADED CONCRETE INSERT – WOOD FORM (TCI-WF) AND THREADED CONCRETE INSERT – METAL DECK (TCI-MD)****1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that the Gripple Threaded Concrete Insert – Wood Form (TCI-WF) and Threaded Concrete Insert – Metal Deck (TCI-MD), described in ICC-ES evaluation report ESR-4638, have also been evaluated for compliance with the Chicago Construction Codes (Title 14 of the Chicago Municipal Code) as noted below.

Applicable code edition:

- 2019 *Chicago Building Code* (Title 14B)

2.0 CONCLUSIONS

The Gripple TCI Wood Form and TCI Metal Deck, described in Sections 2.0 through 7.0 of the evaluation report ESR-4638, comply with Chapter 19 of Title 14B, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The Gripple TCI Wood Form and TCI Metal Deck, described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report ESR-4638.
- The design, installation, conditions of use and identification of the Gripple TCI Wood Form and TCI Metal Deck are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report ESR-4638.
- The design, installation and inspection are in accordance with additional requirements of Chapters 16 and 17 of Title 14B, as applicable.

This supplement expires concurrently with the evaluation report, reissued August 2024.