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ICC-ES Evaluation Report
ESR-4320

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DIVISION: 03 00 00—CONCRETE
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DIVISION: 09 00 00—FINISHES
Section: 09 22 16.23—Fasteners

REPORT HOLDER:

MAX CO., LTD.

EVALUATION SUBJECT:

MAX POWERLITE® CONCRETE & STEEL FASTENERS

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018, 2015, 2012 and 2009 *International Building Code*® (IBC)
- 2021, 2018, 2015, 2012 and 2009 *International Residential Code*® (IRC)

For evaluation for compliance with codes adopted by Los Angeles Department of Building and Safety (LADBS), see ESR-4320 LABC and LARC Supplement.

Property evaluated:

Structural

2.0 USES

The MAX PowerLite® fasteners are power-actuated fasteners (PAFs) used with pneumatic tools to attach building materials, such as wood and cold-formed steel, to base materials of normalweight concrete, sand-lightweight concrete, metal deck panels with sand-lightweight concrete fill, concrete masonry and structural steel. The fasteners are alternatives to the cast-in-place anchors described in IBC Section 1901.3 (2012 IBC Section 1908; 2009 IBC Section 1911) for placement in concrete; the embedded anchors described in Section 8.1.3 of TMS 402-16 (Section 2.1.4 of TMS 402-11 and -08 for the 2012 and 2009 IBC), referenced in Section 2107 of the IBC for placement in masonry; and the welds and bolts used to attach materials to steel, described in IBC Sections 2204.1 and 2204.2, respectively. For structures regulated under the IRC, the fasteners may be used where an engineered design is submitted in accordance with IRC Section R301.1.3.

3.0 DESCRIPTION

3.1 Fasteners:

MAX PowerLite® fasteners are manufactured from hardened steel complying with the manufacturer's quality documentation and are electrogalvanized with a zinc cromate finish. The fasteners are collated into coils and have premounted plastic or aluminum washers to facilitate installation. See Table 1 for shank type and fastener dimensions.

3.2 Substrate Materials:

3.2.1 Steel: Structural steel supports must comply with the minimum requirements of ASTM A36, ASTM A572 Grade 50 or ASTM A992, as applicable, and must have minimum yield strength, tensile strength and thickness as noted in Table 2.

3.2.2 Concrete: Normalweight and sand-lightweight concrete must comply with IBC Chapter 19 or IRC Section R402.2, as applicable. The minimum concrete compressive strength at the time of fastener installation must be as noted in Tables 3 and 4.

3.2.3 Concrete Masonry: Concrete masonry units (CMUs) must be minimum 8-inch-thick (203 mm), and must comply with ASTM C90. Mortar must comply with ASTM C270. Grout must be course grout complying with ASTM C476. See Table 5 for CMU and mortar type.

3.2.4 Steel Deck Panels: Steel deck panel properties and configurations must be as described in the footnotes to Table 4 and Figures 6 and 7.

4.0 DESIGN AND INSTALLATION

4.1 Design:

4.1.1 General: Selection of fasteners must take into consideration the applicable base material and the length of the fastener. The minimum fastener length must be determined as follows:

- For installation into concrete, concrete-filled steel deck panels and concrete masonry, the minimum effective shank length shown in Table 1 must equal or exceed the sum of the thickness of the attached material and

the minimum embedment depth shown in the applicable tables in this report.

- For installation through steel base materials, the minimum effective shank length shown in Table 1 must equal or exceed the sum of the following: the thickness of the attached material, the thickness of the base material and the required point penetration shown in the Table 2.

4.1.2 Allowable Loads: The applicable allowable load tables for the fasteners driven into different base materials may be determined by referencing Table 1.

The most critical applied loads, excluding seismic load effects, resulting from the load combinations in Section 2.4 of ASCE 7-16/S1 (referenced in 2021 IBC Section 1605.1) or 2021 IBC Section 1605.2 (Section 1605.3.1 or 1605.3.2 of the 2018, 2015, and 2012 IBC) must not exceed the allowable loads. For fasteners which are subjected to seismic loads, see Section 4.1.5 for additional information. The stress increases and load reductions described in 2021 IBC Section 1605.2 (2018, 2015, 2012 IBC Section 1605.3) are not allowed.

Allowable shear loads and tension (pullout) loads in this report apply to the connection of the fastener to the base material. Other limit states applicable to the design of a connection, such as fastener pull-through (pull-over) and lateral bearing on the attached material, which are governed by the properties of attached materials, are outside the scope of this report. Design of the connection to the attached material must comply with the applicable requirements of the IBC. When designing the connection of wood members to the base material, the bending yield strength of the fasteners can be assumed to be the same as that of a nail with the same shank diameter.

4.1.3 Combined Loading: For fasteners subjected to both tension and shear loads, compliance with the following interaction equation must be verified:

$$(p/P_a) + (v/V_a) \leq 1$$

where:

p = Actual applied tension load on fastener, lbf (N).

P_a = Allowable tension load on fastener, lbf (N).

v = Actual applied shear load on fastener, lbf (N).

V_a = Allowable shear load on fastener, lbf (N).

4.1.4 Steel-to-steel Connections: When the fasteners listed in Table 2 are used in connections of two steel elements in accordance with Section J5 of AISI S100-16 (Section E5 of AISI S100-12 for the 2015 and 2012 IBC), connection capacity must be determined in accordance with Sections 4.1.4.1 and 4.1.4.2, as applicable.

4.1.4.1 Connection Strength—Tension: To determine tensile connection strength in accordance with Section J5.2 of AISI S100-16 (Section E5.2 of AISI S100-12), the fastener tensile strength, the pull-out strength and the pull-over strength must be known. These characteristics must be determined as follows:

- **PAF Tensile Strength:** The available tensile strengths must be calculated in accordance with Section J5.2.1 of AISI S100-16 (Section E5.2.1 of AISI S100-12) using a value of 260,000 for F_{uh}.
- **Pull-out Strength:** See Table 2 for available pull-out strength.
- **Pull-over Strength:** The available pull-over strengths must be calculated in accordance with Section J5.2.3 of AISI S100-16 (Section E5.2.3 of AISI S100-12).

4.1.4.2 Connection Strength—Shear: To determine shear connection strength in accordance with Section J5.3 of AISI S100-16 (Section E5.3 of AISI S100-12), the fastener shear strength, the bearing and tilting strength, the pull-out strength in shear, the net section rupture strength and the shear strength limited by edge distance must be known. These characteristics must be determined as follows:

- **PAF Shear Strength:** The available shear strengths, must be calculated in accordance with Section J5.3.1 of AISI S100-16 (Section E5.3.1 of AISI S100-12) using a value of 260,000 psi for F_{uh}.
- **Bearing and Tilting Strength:** The available bearing and tilting strengths must be calculated in accordance with Section J5.3.2 of AISI S100-16 (Section E5.3.2 of AISI S100-12).
- **Pull-out Strength in Shear:** The available pull-out strength in shear must be the applicable allowable shear strength from Table 2, or must be calculated in accordance with Section J5.3.3 of AISI S100-16 (Section E5.3.3 of AISI S100-12).
- **Net Section Rupture Strength and Shear Strength Limited by Edge Distance:** The net section rupture strength must be determined in accordance with Section J5.3.4 of AISI S100-16 (Section E5.3.4 of AISI S100-12) and the shear strength limited by edge distance must be determined in accordance with Section J5.3.5 of AISI S100-16 (Section E5.3.5 of AISI S100-12).

4.1.5 Seismic Considerations: The MAX PAFs are recognized for use when subjected to seismic loads as follows:

1. The fasteners may be used for attachment of nonstructural components listed in Section 13.1.4 of ASCE/SEI 7, which are exempt from the requirements of ASCE/SEI 7.
2. Concrete base materials: The fasteners installed in concrete may be used to support distributed systems and distribution systems where the service load on any individual fastener does not exceed the lesser of 90 lbf (400 N) or the allowable load shown in Table 3 or 4, as applicable.
3. Steel base materials: The fasteners installed in steel may be used for attaching nonstructural components where the service load on any individual fastener does not exceed the lesser of 250 lbf (1112 N) or the published allowable load shown in Table 2.
4. For interior, nonstructural walls that are not subject to sustained tension loads and are not a bracing application, the fasteners may be used to attach steel track to concrete or steel in all Seismic Design Categories. In Seismic Design Categories D, E, and F, the allowable shear load due to transverse pressure must be no more than 90 pounds (400 N) when attaching to concrete; or 250 pounds (1,112 N) when attaching to steel. Substantiating calculations must be submitted addressing the fastener-to-base-material capacity and the fastener-to-attached-material capacity. Interior nonstructural walls are limited to locations where bearing walls, shear walls or braced walls are not required by the approved plans. The design load on the fastener must not exceed the allowable load established in this report for the concrete or steel base material.

4.2 Installation:

The fasteners must be installed in accordance with this report and the manufacturer's published installation

instructions. A copy of these instructions must be available on the jobsite at all times during fastener installation.

Fastener installation requires the use of a pneumatic tool in accordance with MAX Co., Ltd. recommendations.

The fastener size, minimum embedment depth or penetration, minimum spacing, and edge distances must comply with Tables 2 through 5, as applicable. For fasteners installed into concrete or masonry, the fasteners must not be driven until the concrete or masonry has reached the designated compressive strength.

5.0 CONDITIONS OF USE

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

5.1 The fasteners must be manufactured and identified in accordance with this report.

5.2 Fasteners must be installed in accordance with this report and the manufacturer's instructions. In the event of conflict between this report and the manufacturer's published instructions, the more restrictive requirements govern.

5.3 Calculations demonstrating that the applied loads are less than the allowable loads described in 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 For steel-to-steel connections that meet the applicability requirements of Section J5 of AISI S100-16 (Section E5 of AISI S100-12), calculations demonstrating that the available connection strength has been determined in accordance with Section J5 of AISI S100-16 (Section E5 of AISI S100-12) and Section 4.1.4 of this report, and equals or exceeds the applied load, must be submitted to the code official. 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.

5.5 Refer to Section 4.1.5 for seismic considerations.

5.6 The fasteners must be limited to dry, interior locations, which include exterior walls which are protected by an exterior wall envelope.

5.7 Use of the fasteners in contact with preservative-treated-wood or fire-retardant-treated wood is outside the scope of this report.

5.8 The use of fasteners in concrete or masonry is limited to installation in uncracked concrete or masonry. Cracking occurs when $f_t > f_r$ due to service loads or deformations.

5.9 The fasteners are manufactured under a quality-control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Power-actuated Fasteners Driven into Concrete, Steel, and Masonry Elements (AC70), dated December 2019 (editorially revised January 2021).

7.0 IDENTIFICATION

7.1 The fasteners are identified by an imprint on the fastener head as shown in Figures 1 through 6. Packages of PAFs bear the company name (MAX), the fastener designation, length and diameter, and the evaluation report number (ESR-4320).

7.2 The report holder's contact information is as follows:

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TABLE 1—MAX POWERLITE FASTENER DESCRIPTIONS AND APPLICATIONS

FASTENER		SHANK TYPE	SHANK DIAMETER (inch)	HEAD DIAMETER (inch)	MAXIMUM POINT LENGTH[2] (inch)	MINIMUM EFFECTIVE SHANK LENGTH[3] (inch)	APPLICABLE BASE MATERIAL	APPLICABLE LOAD TABLES (APPLICABLE FIGURE)
AccuEmbed Series	CP-C815X0SPAL-ICC	Straight, smooth	0.157	0.307	0.244	0.55	Steel	2 (Figure 1)
AccuEmbed Series	CP-C8##X0SP-ICC[1]	Straight, smooth	0.157	0.307	0.393	See Footnote 4	Concrete, concrete-filled deck, masonry	3, 4, 5 (Figure 1)
CP-C819W7-ICC		Straight, smooth	0.145	0.307	0.300	0.71	Concrete, concrete-filled deck	3, 4 (Figure 2)
CP-C8##W7-ICC[1]		Straight, smooth	0.145	0.307	0.366	See Footnote 4	Concrete, concrete-filled deck	3, 4 (Figure 2)
CP-C619V6-ICC		Straight, smooth	0.102	0.248	0.181	0.71	Concrete, concrete-filled deck, masonry	3, 4, 5 (Figure 3)
CP-C624V6-ICC		Straight, smooth	0.102	0.248	0.181	0.90	Concrete, concrete-filled deck, masonry	3, 4, 5 (Figure 3)
CP-W618W0SP		Stepped, smooth (grooved point)	0.118/0.102	0.246	0.250	0.66	Concrete, concrete-filled deck	3, 4 (Figure 4)
CP-W616W0GP-ICC		Stepped, smooth	0.118/0.102	0.246	0.193	0.57	Steel	2 (Figure 5)
CP-W8##W4SP AL		Stepped, smooth	0.133/0.122	0.307	0.249	See Footnote 3	Steel, concrete	2, 3 (Figure 6)
CP-W8##W4SP		Stepped, smooth	0.133/0.122	0.307	0.249	See Footnote 3	Steel, concrete	2, 3 (Figure 6)

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

[1]## denotes numbers used in fastener designation to represent nominal fastener length in mm.
[2]Maximum point length is the maximum specified length from the tip of the fastener to the location where the diameter of the shank becomes constant.
[3]The minimum effective shank length is the minimum specified length from the underside of the fastener head to the tip of the fastener.
[4]The minimum effective shank must be determined in terms of the designated length as ##/25.4 minus 0.06 in inches (## minus 1.5 mm).

TABLE 2—ALLOWABLE LOADS FOR MAX POWERLITE FASTENERS DRIVEN INTO STEEL[1,5,6]

FASTENER	SHANK DIAMETER (inch)	ALLOWABLE LOADS (lbf)							
Steel Base Material		**ASTM A36[7]**							
Steel Thickness (inch):		$^3/_{16}$		$^1/_4$		$^3/_8$		$^1/_2$	
Load Direction:		**Tension**	**Shear**	**Tension**	**Shear**	**Tension**	**Shear**	**Tension**	**Shear**
CP-C815X0SP AL-ICC	0.157	290[2,9]	490[2]	285[3]	430[3]	375[4]	455[4]	–	–
CP-W616W0GP-ICC	0.118/0.102	70[2,9]	215[2]	70[3]	180[3]	125[4]	220[4]	–	–
CP-W814W4SP AL	0.133/0.122	135	515	240	470	345	495	370	510
CP-W816W4SP AL	0.133/0.122	185	575	280	535	475	610	440	635
CP-W820W4SP AL CP-W823W4SP AL CP-W823W4SP CP-W833W4SP CP-W838W4SP CP-W850W4SP	0.133/0.122	225	395	315	380	400	495	360	430
Steel Base Material		**ASTM A572 Grade 50 or A992[8]**							
Steel Thickness (inch):		$^3/_{16}$		$^1/_4$		$^3/_8$		$^1/_2$	
Load Direction:		**Tension**	**Shear**	**Tension**	**Shear**	**Tension**	**Shear**	**Tension**	**Shear**
CP-C815X0SP AL-ICC	0.157	310[2,9]	525[2]	310[3]	465[3]	400[4]	490[4]	–	–
CP-W616W0GP-ICC	0.118/0.102	75[2,9]	230[2]	75[3]	195[3]	130[4]	235[4]	–	–
CP-W814W4SP AL	0.133/0.122	135	480	270	450	360	520	415	570
CP-W816W4SP AL	0.133/0.122	180	495	310	510	500	645	495	710
CP-W820W4SP AL CP-W823W4SP AL CP-W823W4SP CP-W833W4SP CP-W838W4SP CP-W850W4SP	0.133/0.122	255	380	335	430	420	525	405	480

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

[1]Fastener tip must penetrate through the entire steel base material thickness.
[2]Fastener tip must penetrate through the entire steel base material thickness plus 0.26 in.
[3]Fastener tip must penetrate through the entire steel base material thickness plus 0.18 in.
[4]Fastener tip must penetrate through the entire steel base material thickness plus 0.03 in.
[5]The fasteners listed in the table above may be used for static load conditions and for the seismic load conditions described in Section 4.1.5 of this report, as applicable. The tabulated allowable loads apply to static load conditions. For seismic load conditions, the allowable loads must be limited in accordance with Section 4.1.5, Items 3 and 4, as applicable.
[6]Fastener spacing must be a minimum of 1.0 inch and edge distance must be a minimum of 0.50 inch.
[7]Steel base material must have minimum yield and tensile strengths (F_y and F_u) equal to 36 ksi and 58 ksi, respectively.
[8]Steel base material must have minimum yield and tensile strengths (F_y and F_u) equal to 50 ksi and 65 ksi, respectively.
[9]For steel-to-steel connections designed in accordance with Section 4.1.4, the tabulated allowable load (ASD) may be increased by a factor of 1.25, and the design strength (LRFD) may be taken as the tabulated allowable load multiplied by a factor of 2.0.

TABLE 3—ALLOWABLE LOADS FOR MAX POWERLITE FASTENERS DRIVEN INTO NORMALWEIGHT CONCRETE[1,2,3]

FASTENER	SHANK DIAMETER (inch)	MINIMUM EMBEDMENT DEPTH (inches)	ALLOWABLE LOADS (lbf)							
Concrete Compressive Strength:			2,500 psi		4,000 psi		6,000 psi		8,000 psi	
Load Direction:			Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear
CP-W618W0SP	0.118/0.102	$^{19}/_{32}$	130	160	130	165	135	180	–	–
CP-C8##X0SP-ICC	0.157	$^{3}/_{4}$	170	85	170	200	120	110	–	–
		1	220	245	235	300	185	265	–	–
		$1^{1}/_{4}$	375	415	405	425	345	345	–	–
		$1^{1}/_{2}$	300	410	–	–	–	–	–	–
CP-C8##W7-ICC	0.145	$^{3}/_{4}$	140	100	175	300	–	–	–	–
		1	240	205	300	575	–	–	–	–
		$1^{1}/_{4}$	355	310	435	650	–	–	–	–
		$1^{1}/_{2}$	385	430	–	–	–	–	–	–
CP-C6##V6-ICC	0.102	$^{3}/_{4}$	100	140	145	205	–	–	–	–
		$^{7}/_{8}$	145	220	220	230	–	–	–	–
CP-W820W4SP AL	0.133/0.122	$^{3}/_{4}$	–	–	210	240	245	320	250	270
CP-W823W4SP AL CP-W823W4SP	0.133/0.122	$^{7}/_{8}$	–	–	150	365	360	495	220	210

For **SI:** 1 inch = 25.4 mm, 1 psi = 6.89 kPa, 1 lbf = 4.4 N.

[1]Fasteners must not be driven until the concrete has reached the designated minimum compressive strength.
[2]Concrete thickness must be a minimum of 3 times the embedment depth of the fastener. Fastener spacing must be a minimum of 4 inches and edge distance must be a minimum of 3.2 inches.
[3]The fasteners listed in the table above may be used for static load conditions and for the seismic load conditions described in Section 4.1.5, as applicable. The tabulated allowable loads apply to static load conditions. For seismic load conditions, the allowable loads must be limited in accordance with Section 4.1.5, Items 2 and 4, as applicable.

TABLE 4—ALLOWABLE LOADS FOR MAX POWERLITE FASTENERS DRIVEN INTO MINIMUM 3,000 psi LIGHTWEIGHT CONCRETE AND LIGHTWEIGHT CONCRETE FILLED STEEL DECK PANELS [1,2]

FASTENER	SHANK DIAMETER (inch)	MINIMUM EMBEDMENT DEPTH (inches)	ALLOWABLE LOADS (lbf)							Minimum Required Concrete Thickness Above Deck Panel (inches)
Fastener Location:			Fasteners Installed Directly into Concrete[3]		Fasteners Installed Through Steel Deck Panel into Concrete					
Deck Type:			n/a		3" Deep Steel Deck[4]		1½" Deep Steel Deck[5]			
Load Direction:			Tension	Shear	Lower Flute		Upper Flute	Lower Flute		
					Tension	Shear	Tension	Tension	Shear	
CP-C8##X0SP-ICC	0.157	¾	90	190	44	295	100	75	405	2¼
		1	200	265	125	295	245	190	425	
		1¼	285	370	260	315	–	–	–	
		1½	440	480	260	255	–	–	–	
CP-C8##W7-ICC	0.145	¾	75	90	65	195	–	–	–	
		1	180	250	130	315	–	–	–	
		1¼	280	345	225	300	–	–	–	
		1½	380	410	245	385	–	–	–	
CP-C6##V6-ICC	0.102	¾	125	165	85	220	–	–	–	
		⅞	165	215	115	215	–	–	–	
CP-W618W0SP	0.118/0.102	⅝	80	100	25	175	–	–	–	

For **SI:** 1 inch = 25.4 mm, 1 psi = 6.89 kPa, 1 lbf = 4.4 N.

[1]Fasteners must not be driven until the concrete has reached a minimum compressive strength of 3,000 psi.
[2]The fasteners listed in the table above may be used for static load conditions and for the seismic load conditions described in Section 4.1.5, as applicable. The tabulated allowable loads apply to static load conditions. For seismic load conditions, the allowable loads must be limited in accordance with Section 4.1.5, Items 3 and 4, as applicable.
[3]Fastener spacing must be a minimum of 4 inches and edge distance must be a minimum of 3.2 inches.
[4]Deck panels must be minimum 0.0347-inch-thick with a minimum specified yield strength of 50 ksi, and a minimum specified tensile strength of 65 psi. Distance from center of fastener to edge of deck rib must be a minimum of 1⅛ inches. See Figure 6 for deck profile.
[5]Deck panels must be minimum 0.0344-inch-thick with a minimum specified yield strength of 50 ksi, and a minimum specified tensile strength of 65 psi. Distance from center of fastener to edge of deck rib must be a minimum of ⅞ inches. See Figure 7 for deck profile.

TABLE 5—ALLOWABLE LOADS FOR FASTENERS DRIVEN INTO CONCRETE MASONRY [1,2,7,8]

FASTENER	SHANK DIAMETER (inch)	EMBEDMENT DEPTH (inch)	CMU TYPE, MORTAR TYPE	ALLOWABLE LOADS (lbf)									
Masonry Type:				Hollow CMU				Grouted CMU					
Fastener Location:				Face Shell[3]		Horizontal Mortar Joint[5]		Face Shell[3]		Horizontal Mortar Joint[5]		Top of Grouted Cell[7]	
Load Direction:				Tension	Shear[4]	Tension	Shear[6]	Tension	Shear[4]	Tension	Shear[6]	Tension	Shear[4]
CP-C8##X0SP-ICC	0.157	1	Normalweight CMU, Type S mortar	75	70	45	285	160	215	250	300	145	270
CP-C6##V6-ICC	0.102	¾		95	130	–	–	–	–	–	–	–	–

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

[1]See Section 3.2.2 for additional CMU, mortar and grout requirements.
[2]No more than one fastener may be installed in an individual masonry unit cell.
[3]Fasteners must be installed a minimum of 3.2 inches from the edges of the CMU and a minimum of 1½ inches from the center web of the CMU.
[4]Shear can be applied in any direction.
[5]Fastener spacing and distance to the edge of the wall must be a minimum of 4 inches.
[6]Applies to installation in horizontal bed joint with shear load applied perpendicular to the bed joint.
[7]Fastener located in center of grouted cell, installed vertically.
[8]The fasteners listed in the table above may be used for static load conditions and for the seismic load conditions described in Item 1 of Section 4.1.5.

FIGURE 1—CP-C8##X0SP-ICC FASTENER (AccuEmbed Series)

FIGURE 2—CP-C8##W7-ICC FASTENER

FIGURE 3—CP-C6##V6-ICC FASTENER

FIGURE 4—CP-W618W0SP FASTENER

FIGURE 5— CP-W616W0GP-ICC FASTENER

FIGURE 6—CP-W8##W4SP FASTENER

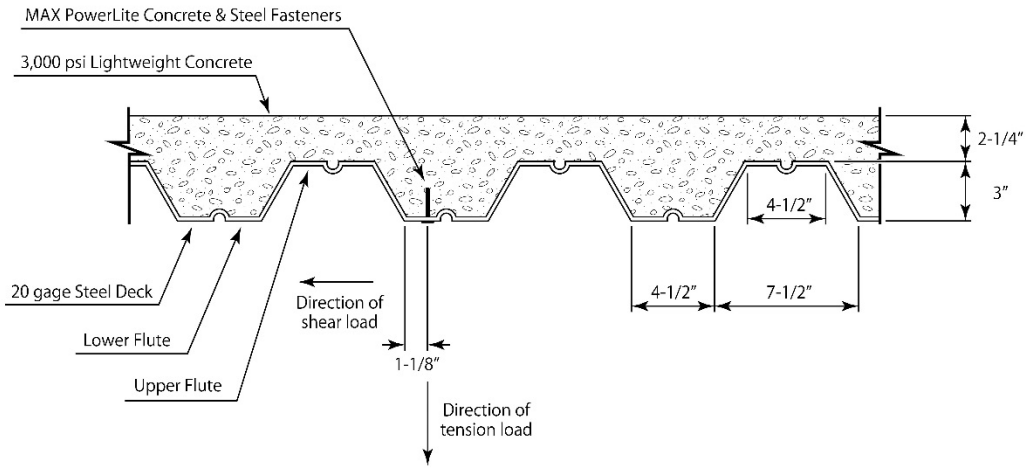

FIGURE 6—FASTENER LOCATIONS IN 3-INCH-DEEP COMPOSITE FLOOR DECK PANEL

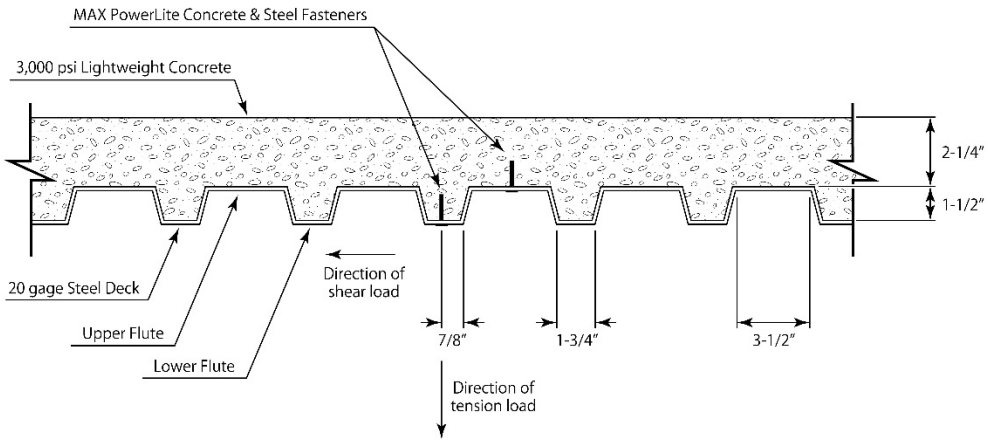

FIGURE 7—FASTENER LOCATIONS IN $1^1/_2$-INCH-DEEP COMPOSITE FLOOR DECK PANEL

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1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the MAX PowerLite® fasteners, described in ICC-ES evaluation report ESR-4320, 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 MAX PowerLite® fasteners, described in Sections 2.0 through 7.0 of the evaluation report ESR-4320, comply with the LABC Chapters 19, 21 and 22 and the LARC, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The MAX PowerLite® fasteners described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report ESR-4320.
- The design, installation, conditions of use and identification of the MAX PowerLite® fasteners are in accordance with the 2018 *International Building Code®* (IBC) provisions noted in the evaluation report ESR-4320.
- 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 strength values listed in the evaluation report ESR-4320 are for the connection of the fasteners to normalweight concrete, lightweight concrete with or without metal deck, steel and masonry. The connection between the fasteners and the connected members must be checked for capacity (which may govern).

This supplement expires concurrently with the evaluation report, reissued September 2021.