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# ICC-ES Evaluation Report

## ESR-4355

Issued 02/2019

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This report is subject to renewal 02/2020.

**DIVISION: 03 00 00—CONCRETE**  
**SECTION: 03 21 00—Reinforcing Steel**

**REPORT HOLDER:**

**BARSPLICE PRODUCTS, INC.**

**EVALUATION SUBJECT:**

**BARSPLICER XP**



*“2014 Recipient of Prestigious Western States Seismic Policy Council (WSSPC) Award in Excellence”*



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Issued February 2019

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A Subsidiary of the International Code Council®

**DIVISION: 03 00 00—CONCRETE**  
**Section: 03 21 00—Reinforcing Steel**

**REPORT HOLDER:**

**BARSPLICE PRODUCTS, INC.**

**EVALUATION SUBJECT:**

**BARSPLICER XP**

## 1.0 EVALUATION SCOPE

**Compliance with the following codes:**

- 2018, 2015, 2012 and 2009 *International Building Code*® (IBC).

For evaluation for compliance with codes adopted by the Los Angeles Department of Building and Safety (LADBS), see [ESR-4355 LABC supplement](#).

**Property evaluated:**

Structural

## 2.0 USES

The Barsplicer XP mechanical splice system is used as tension and compression mechanical splices of deformed steel reinforcing bars in reinforced concrete construction. The Barsplicer XP mechanical splice system complies with Section 25.5.7 of ACI 318-14 as referenced in Section 1901.2 of the 2018 and 2015 IBC, and Section 12.14.3.2 of ACI 318 (-11 and -08) for the 2012 and 2009 IBC respectively, for use as tension and compression mechanical connections of ASTM A615 Grades 60, 75 and 80, or ASTM A706 Grade 60 and 80 deformed steel reinforcing bars sizes No. 4 through No. 11.

This system, when used to splice ASTM A615 Grade 60 and 75, and ASTM A706 Grade 60 and 80 bars, complies with the Type 1 and Type 2 mechanical splice requirements of Section 18.2.7.1 of ACI 318-14 for the 2018 and 2015 IBC, and Section 21.1.6.1 of ACI 318 (-11 and -08) for the 2012 and 2009 IBC respectively, and is for use where Type 1 or Type 2 mechanical splices are specified by the IBC and ACI 318.

This system, when used to splice ASTM A615 Grade 80 bars, complies with the Type 1 mechanical splice requirements of Section 18.2.7.1 of ACI 318-14 for the 2018 and 2015 IBC, and Section 21.1.6.1 of ACI 318 (-11 and -08) for the 2012 and 2009 IBC, respectively, and is for use where Type 1 mechanical splices are specified by the IBC and ACI 318.

The use of this system to splice ASTM A615 Grade 75 and 80 or ASTM A706 Grade 80 bars for special seismic

applications is outside the scope of this evaluation report since Sections 20.2.2.4 and 20.2.2.5 of ACI 318-14 specify a maximum steel grade of 60 for reinforcing bars used for special seismic applications.

## 3.0 DESCRIPTION

### 3.1 General:

The Barsplicer XP mechanical splice system consists of two pieces of reinforcing bar with external straight threads and a cylindrical steel coupling sleeve with internal straight threads that can be provided with or without a flange for securing to concrete forms. The Barsplicer XP coupler system is used as a mechanical splice of deformed steel reinforcing bars in reinforced concrete construction.

The Barsplicer XP coupler is available for splicing Nos. 4, 5, 6, 7, 8, 9, 10, and 11 steel reinforcing bars. See Figure 1 and Table 1.

### 3.2 Materials:

**3.2.1 Couplers:** The couplers are manufactured from steel conforming to ASTM A108, Grade 1018 through 1215.

**3.2.2 Steel Reinforcing Bars:** The deformed steel reinforcing bars comply with ASTM A615, Grade 60, 75 and 80, or ASTM A706 Grade 60, and 80. Epoxy coatings, if applied to the reinforcing bars, must comply with ASTM A775, and be applied prior to threading of the of the reinforcing bar ends. The threading operation removes the epoxy coating near the bar ends.

## 4.0 INSTALLATION

### 4.1 General:

The Barsplicer XP splice system is installed at the jobsite. The threaded end of each reinforcing bar is placed into the coupler and rotated until the bar can no longer turn. A pipe wrench is used to complete the assembly per the manufacturer's instructions. If a Barsplicer XP coupler is provided with a flange as a setting bar, it can be nailed to a concrete form prior to pouring the first part of the concrete work. Once the form is pulled away, the second splice bar can be installed into the coupler set in concrete per the manufacturer's instructions.

### 4.2 Special Inspection:

Special inspection is required in accordance with Section 1705 of the 2018, 2015 and 2012 IBC, and Section 1704 of the 2009 IBC, as applicable. In addition to verifying placement of reinforcing bar splices in accordance with this report, the special inspector must verify reinforcing bar embedment; coupler and rebar identification; field preparation of components, including field preparation of

reinforcing bar ends; and assembly of the components resulting in spliced reinforcing bars.

## 5.0 CONDITIONS OF USE

The Barsplicer XP mechanical splice system described in this report complies with, or is 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 The splice system must be installed in accordance with the applicable code, the manufacturer's instructions and this report. In the case of conflict between the manufacturer's published instructions and this report, this report governs.
- 5.2 Splice locations must comply with applicable ACI 318 (IBC) requirements and be noted on plans approved by the code official.
- 5.3 Under the 2018 and 2015 IBC, as applicable, for structures regulated by Chapter 18 of ACI 318-14 (as required by 2018 and 2015 IBC Section 1905.1, as applicable), to splice deformed longitudinal reinforcing bars resisting earthquake-induced moment, axial force, or both, in special moment frames, special structural walls, and all components of special structural walls including coupling beams and wall piers, with the Barsplicer XP mechanical splice system, mill certificates of reinforcing bars must be submitted to the code official as evidence that the steel reinforcing bars comply with ACI 318-14 Section 20.2.2.5.
- 5.4 Under the 2012 IBC, for structures regulated by Chapter 21 of ACI 318-11 (as required by 2012 IBC Section 1905.1), to splice deformed reinforcing bars resisting earthquake-induced flexure, axial force, or both, in special moment frames, special structural walls, and all components of special structural walls including coupling beams and wall piers, with the Barsplicer XP mechanical splice system, mill certificates of reinforcing bars must be submitted to the code official as evidence that the steel reinforcing bars comply with ACI 318-11 Section 21.1.5.2.
- 5.5 Under the 2009 IBC, for structures regulated by Chapter 21 of ACI 318-08 (as required by 2009 IBC Section 1908.1), to splice deformed reinforcing bars resisting earthquake-induced flexure and axial forces in frame members, structural walls and coupling

beams, with the Barsplicer XP mechanical splice system, mill certificates of reinforcing bars must be submitted to the code official as evidence that the steel reinforcing bars comply with ACI 318-08 Section 21.1.5.2.

- 5.6 Special inspection must be provided in accordance with Section 4.2 of this report.
- 5.7 The minimum concrete cover and spacing between spliced bars must be in accordance with the ACI 318 (IBC) and must be measured from the outer surface of the coupler.
- 5.8 Epoxy coated reinforcing bars with epoxy coated thread ends must comply with applicable codes to the satisfaction of the code official.

## 6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Mechanical Connector Systems for Steel Reinforcing Bars (AC133), dated October 2015 (editorially revised May 2018).

## 7.0 IDENTIFICATION

- 7.1 Each Barsplicer XP coupler must be identified with a label containing the Barsplice Products Inc. product name (Barsplicer), splice model/type ("XP"), and the ICC-ES evaluation report number (ESR-4355). Bundles of threaded steel reinforcing bars, both with and without couplers threaded onto the ends of the steel reinforcing bars, are strapped to a shipping pallet and wrapped for security. The pallet must have a label containing the name and address of Barsplice Products Inc., product name (Barsplicer), splice model/type ("XP"), an identification code, product size, heat lot number, and the ICC-ES evaluation report number (ESR-4355).
- 7.2 The report holder's contact information is the following:

**BARSPLICE PRODUCTS, INC.**  
**4900 WEBSTER STREET**  
**DAYTON, OHIO 45414**  
**(937) 275-8700**  
[www.barsplice.com](http://www.barsplice.com)

TABLE 1—BARSPLICER XP COUPLER DIMENSIONS

REBAR NOMINAL SIZE	THREAD SIZE	WEIGHT (lb)	DIA (in)	L (in)	W (in)	H (in)
#4	1/2-13 UNC	0.28	7/8	1 3/4	1 5/8	2 7/16
#5	5/8-11 UNC	0.35	1	2	1 5/8	2 7/16
#6	3/4-10 UNC	0.40	1 1/8	2 1/8	1 5/8	2 7/16
#7	7/8-9 UNC	0.50	1 1/4	2 1/2	2	2 15/16
#8	1-8 UNC	0.90	1 1/2	3	2	2 15/16
#9	1 1/8-7 UNC	1.50	1 3/4	3 1/2	2	2 15/16
#10	1 1/4-7 UNC	2.35	2	4	2 3/8	3 3/8
#11	1 3/8-6 UNC	2.40	2	4 1/2	2 3/8	3 3/8

For SI: 1 inch = 25.4 mm

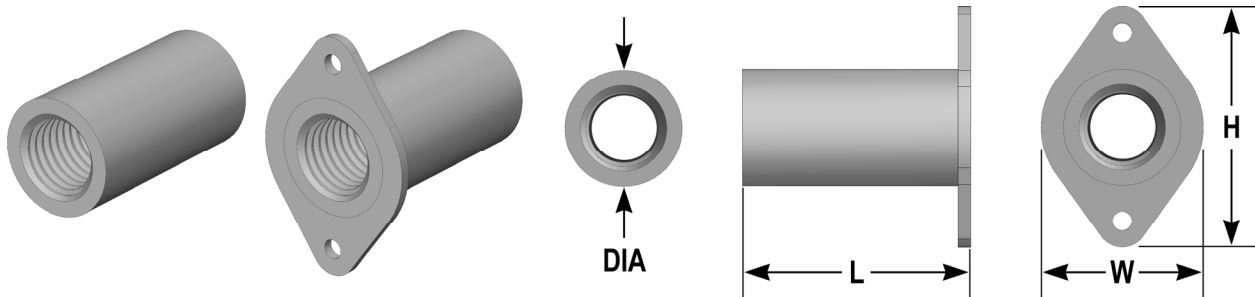


FIGURE 1—BARSPLICER XP COUPLER AND OPTIONAL FLANGE

## ICC-ES Evaluation Report

## ESR-4355 LABC Supplement

Issued February 2019

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### REPORT HOLDER:

**BARSPLICE PRODUCTS, INC.**

### EVALUATION SUBJECT:

**BARSPLICER XP**

### 1.0 REPORT PURPOSE AND SCOPE

#### Purpose:

The purpose of this evaluation report supplement is to indicate that the Barsplicer XP mechanical splice system for connecting steel reinforcing bars in concrete, described in ICC-ES master evaluation report [ESR-4355](#), has also been evaluated for compliance with the code noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

#### Applicable code editions:

- 2017 *City of Los Angeles Building Code* (LABC)

### 2.0 CONCLUSIONS

The Barsplicer XP mechanical splice system for connecting steel reinforcing bars in concrete, described in Sections 2.0 through 7.0 of the master evaluation report [ESR-4355](#), complies with the LABC Chapter 19, and is subjected to the conditions of use described in this supplement.

### 3.0 CONDITIONS OF USE

The Barsplicer XP mechanical splice system for connecting steel reinforcing bars in concrete described in this evaluation report must comply with all of the following conditions:

- All applicable sections in the master evaluation report [ESR-4355](#).
- The design, installation, conditions of use and identification are in accordance with the 2015 *International Building Code*® (2015 IBC) provisions noted in the master evaluation report [ESR-4355](#).
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16 and 17, as applicable.
- Continuous special inspection by Deputy Inspectors shall be provided during installation of splices.

This supplement expires concurrently with the master report, issued February 2019.