

ICC-ES Evaluation Report


ESR-4572

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<p>DIVISION: 03 00 00— CONCRETE</p> <p>Section: 03 21 00— Reinforcing Bars</p>	<p>REPORT HOLDER: WELLSYS METAL CO., LTD.</p>	<p>EVALUATION SUBJECT: WELLSYS ONE TOUCH COUPLER TYPE D</p>	
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1.0 EVALUATION SCOPE

Compliance with the following code:

- 2021, 2018, 2015, and 2012 [International Building Code® \(IBC\)](#)

Property evaluated:

Structural

2.0 USES

The Wellsys One Touch Coupler Type D mechanical splice system is used as tension and compression mechanical splices of deformed steel reinforcing bars in reinforced concrete construction. The Wellsys One Touch Coupler Type D mechanical splice system complies with Section 25.5.7 of ACI 318-19 or ACI 318-14 and Section 12.14.3.2 of ACI 318-11, as referenced in Section 1901.2 of the 2021, 2018, 2015 and 2012 IBC, as applicable, for use as tension and compression mechanical connections of ASTM A615 Grades 60, or ASTM A706 Grade 60 deformed steel reinforcing bars sizes No. 5 through No. 10.

This system, when used to splice ASTM A615 Grade 60 and ASTM A706 Grade 60 bars, complies with the Type 1 mechanical splice requirements of Section 18.2.7.1 of ACI 318-19 or ACI 318-14 and Section 21.1.6.1 of ACI 318-11 for the 2021, 2018, 2015 and 2012 IBC, as applicable, and is for use where Type 1 mechanical splices are specified by the IBC and ACI 318.

3.0 DESCRIPTION

3.1 General:

The Wellsys One Touch Coupler Type D consists of two forged steel body, one jointer, two jaws, two steel rings, and two springs (see [Figure 1](#)). The Wellsys One Touch Coupler system is used as a mechanical splice to be installed in site work used in reinforced concrete construction.

The Wellsys One Touch Coupler Type D is available for splicing US customary bar size Nos. 5, 6, 7, 8, 9, and 10 steel reinforcing bars (see [Table 1](#)).

3.2 Materials:

3.2.1 Couplers: The Wellsys One Touch Coupler Type D couplers are manufactured from One Touch Self Locking System in compliance with KS-D-0249 (specification of Testing for Mechanical Splice System), using Korean Standard for material grade SD400, SD500, SD600.

3.2.2 Steel Reinforcing Bars: Deformed steel reinforcing bars in compliance with ASTM A615 Grade 60 or ASTM A706 Grade 60 must be used for the Wellsys One Touch Coupler Type D.

4.0 INSTALLATION

4.1 General:

The Wellsys One Touch Coupler Type D mechanical splice system is to be installed without any threading on the rebars. Reinforcing bars can be used without any further process on the reinforcing bar. The Wellsys One Touch Coupler Type D can be used on any construction site for site work as long as the rebar sizes are within the range of this report and applicable codes.

The Wellsys One Touch Coupler Type D should be installed per the Wellsys System installation manual. The following are key components to that installation.

- The end of all reinforcing bar, before installation, should be clean from any debris and deburred.
- The coupler is to be installed by inserting one end of the coupler into the reinforcing bar and inserting, on the opposite end, the reinforcing bar into the coupler. A slight push of the reinforcing bar into the coupler is enough to lock it in place.

4.2 Special Inspection:

Special inspection is required in accordance with Section 1705 of the 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 Wellsys One Touch Coupler Type D 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 2021 IBC, as applicable, for structures regulated by Chapter 18 of ACI 318-19 (as required by 2021 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 Wellsys One Touch Coupler Type D 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 318-19 Section 20.2.2.5
- 5.4** 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 Wellsys One Touch Coupler Type D 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.
- 5.5** 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 Wellsys One Touch Coupler Type D 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.
- 5.6** 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.
- 5.9 The evaluation of corrosion resistance of the mechanical splice is outside the scope of this evaluation and must be considered by the registered design professional during the design.

6.0 EVIDENCE SUBMITTED

Data in accordance with the [ICC-ES Acceptance Criteria for Mechanical Connector Systems for Steel Reinforcing Bars \(AC133\)](#), dated October 2020.

7.0 IDENTIFICATION

- 7.1 Each Wellsys One Touch Coupler Type D will be identified with a stamping as per [Figure 2](#) and the ICC-ES evaluation report number (ESR-4572).
- 7.2 The report holder’s contact information is the following:

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TABLE 1—WELLSYS ONE TOUCH COUPLER COUPLER DIMENSIONS

COUPLER ID	REBAR NOMINAL SIZE	WEIGHT (lb)	LENGTH		OUTSIDE DIAMETER		INSIDE DIAMETER	
			(in)	(mm)	(in)	(mm)	(in)	(mm)
D16	#5	1.23	4 ⁹ / ₁₆	116	1 ²⁷ / ₆₄	36	4 ⁵ / ₆₄	18
D19	#6	1.92	5 ²³ / ₆₄	136	1 ⁵ / ₈	41	2 ⁷ / ₃₂	21.5
D22	#7	2.62	5 ²⁹ / ₃₂	150	1 ⁵⁵ / ₆₄	47	1 ¹ / ₆₄	25.5
D25	#8	3.75	6 ¹¹ / ₁₆	170	2 ³ / ₃₂	53	1 ¹ / ₈	28.5
D29	#9	5.88	7 ³¹ / ₆₄	190	2 ¹³ / ₃₂	61	1 ⁹ / ₂₃	32.5
D32	#10	8.05	8 ¹⁷ / ₆₄	210	2 ⁴³ / ₆₄	68	1 ²⁵ / ₆₄	35.5

For SI: 1 inch = 25.4 mm 1 lb. = 454 gr.

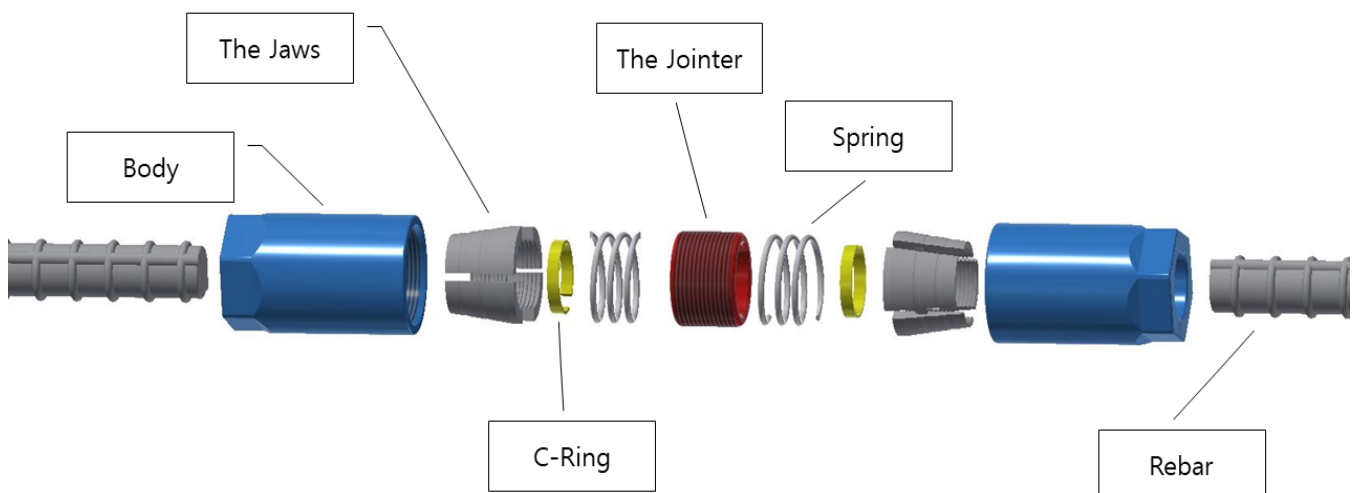


FIGURE 1—WELLSYS ONE TOUCH COUPLER TYPE D

WellsysMetal Coupler's LOT No. Management Regulations

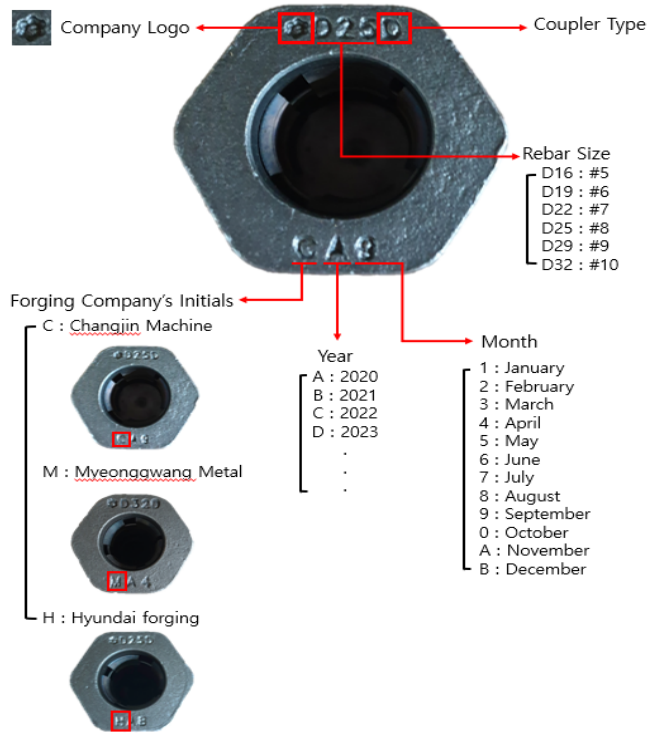


FIGURE 2—WELLSYS COUPLER STAMPING IDENTIFIER