



DEXTRA MANUFACTURING CO., LTD.
247 Sarasin Road, Lumpini, Pathumwan
Bangkok, Thailand
www.dextragroup.com

DEXTRA GROUTEC PRECAST SPLICING SYSTEM FOR STEEL REINFORCING BARS

CSI Section: 03 21 00 Reinforcing Steel

1.0 RECOGNITION

Dextra Groutec Precast Splicing System for steel reinforcing bars recognized in this report has been evaluated for use as a mechanical splice for deformed steel reinforcing bars in reinforced concrete construction. The structural properties and physical characteristics of the Dextra Groutec Precast Splicing System for steel reinforcing bars comply with the intent of the provisions of the following codes and regulations:

- 2021, 2018, 2015, 2012, and 2009 International Building Code® (IBC)
- 2021, 2018, 2015, 2012, and 2009 International Residential Code® (IRC)
- 2020 City of Los Angeles Building Code (LABC) – attached Supplement
- 2020 City of Los Angeles Residential Code (LARC) – attached Supplement
- 2019 California Building Code (CBC) – attached Supplement
- 2019 California Residential Code (CRC) – attached Supplement
- 2013 Abu Dhabi International Building Code (ADIBC) – attached Supplement

2.0 LIMITATIONS

Use of the DEXTRA Groutec Precast Splicing System recognized in this report is subject to the following limitations:

2.1 The splice system shall be identified and installed in accordance with the applicable code, the manufacturer's instructions, and this report. In the event of a conflict between this report and the manufacturer's instructions, the more restrictive shall govern.

2.2 Installation shall be limited to Exposure Category F1, as defined in Section 19.3.1 of ACI 318-19 and -14, and Section 4.2.1 of ACI 318-11 and -08.

2.3 Special inspection shall be provided in accordance with Section 4.3 of this report.

2.4 The minimum concrete cover shall be in accordance with IBC Chapters 7 and 19, and Sections 7.6 and 7.7 of ACI 318, whichever is more restrictive and shall be measured from the outer surface of the splice connectors.

2.5 Splice locations shall comply with applicable IBC and ACI 318 requirements and be noted on plans approved by the building official.

2.6 Under the 2018, 2015, 2012, and 2009 IBC or IRC, installations in special moment frames and special structural walls shall comply with Section 18.2.7 of ACI 318-14, or Section 21.1.6 of ACI 318-11 and -08.

2.7 Under the 2021 IBC or IRC, mechanical splice systems used in special moment frames (SMF), SMF constructed of precast concrete, special structural walls, intermediate structural wall connections, and other applicable structures are only allowed as permitted in Chapter 18 of ACI 318-19, and as described in Sections 2.8 to 2.11 of this report.

2.8 Under the 2021 IBC or IRC, only Type 2 mechanical splices of ASTM A706 Grade 60 reinforcement, or ASTM A615 Grade 60 reinforcement satisfying the requirements of ACI 318-19 Section 20.2.2.5(b), shall be permitted in regions where plastic hinging may occur, and located within a distance equal to twice the member depth from the column or beam face for special moment frames or from critical sections where yielding of the rebar occurs as a result of lateral displacements beyond the linear range of behavior in accordance with ACI 318-19 18.2.7.2. It is unknown if mechanical splices of other grades of steel reinforcement in special moment frames and special structural walls are capable of resisting stress levels expected in yielding regions in accordance with ACI 318-19 R18.2.7 and this use is beyond the scope of this report.

2.9 Under the 2021 IBC or IRC, the ability of the included mechanical splice systems, when used on Grade 80 reinforcement, to resist forces and provide yielding in the vicinity of the intermediate precast structural wall connections between precast wall panels, or between wall panels and the foundation, in the plastic region in accordance with ACI 318-19 R18.5, has not been determined, and this use is beyond the scope of this report.

2.10 Under the IBC or IRC, mechanical splice systems used in special moment frames constructed using precast concrete are expected to experience flexural yielding in connection regions in accordance with ACI 318-19 and -14 R18.9 (ACI 318-11 and -08 R21.8), and this use is beyond the scope of this report.

The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety, as applicable, in accordance with IBC Section 104.11. This document shall only be reproduced in its entirety.

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2.11 Under the 2021 IBC or IRC, mechanical splices of Grade 80 reinforcement shall not be used to transfer forces between the diaphragm and the vertical elements of the seismic-force-resisting system in accordance with ACI 318-19 18.12.7.4.

2.12 Under the 2021, 2018, and 2015 IBC or IRC, deformed steel reinforcing bars used with the DEXTRA Groutec Precast Splicing mechanical splice systems shall comply with ACI 318-19 and -14 Section 20.2.2.4 and Table 20.2.2.4(a) for the intended structural usage and application.

2.13 Under the 2021 IBC, for structures regulated by Chapter 18 of ACI 318-19 (as required by 2021 IBC Section 1905.1), to splice uncoated, 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 Dextra Groutec Precast Splicing System, mill certificates of reinforcing bars shall be submitted to the building official and the special inspector as evidence that the steel reinforcing bars comply with ACI 318-19 Section 20.2.2.5.

2.14 Under the 2018 IBC, for structures regulated by Chapter 18 of ACI 318-14 (as required by 2018 IBC Section 1905.1), to splice uncoated, 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 Dextra Groutec Precast Splicing System, mill certificates of reinforcing bars shall be submitted to the building official and the special inspector as evidence that the steel reinforcing bars comply with ACI 318-14 Section 20.2.2.5.

2.15 Under the 2015 IBC, for structures regulated by Chapter 21 of ACI 318-14 (as required by 2015 IBC Section 1905.1), to splice uncoated, 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 Dextra Groutec Precast Splicing System, mill certificates of reinforcing bars shall be submitted to the building official and the special inspector as evidence that the steel reinforcing bars comply with ACI 318-14 Section 20.2.2.5.

2.16 Under the 2012 IBC, for structures regulated by Chapter 21 of ACI 318-11 (as required by 2012 IBC Section 1905.1), to splice uncoated, 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 Dextra Groutec Precast Splicing System, mill certificates of reinforcing bars shall be submitted to the

building official and the special inspector as evidence that the steel reinforcing bars comply with ACI 318-11 Section 21.1.5.2.

2.17 Under the 2009 IBC, for structures regulated by Chapter 21 of ACI 318-08 (as required by 2009 IBC Section 1908.1), to splice uncoated, deformed reinforcing bars resisting earthquake-induced flexural and axial forces in frame members, structural walls and coupling beams, with the Dextra Groutec Precast Splicing System, mill certificates of reinforcing bars shall be submitted to the building official and the special inspector as evidence that the steel reinforcing bars comply with ACI 318-08 Section 21.1.5.2.

2.18 The Dextra Groutec Precast Splicing System shall be used with nonshrink grout complying with Section 4.2.2 of this report.

2.19 The use of Dextra Groutec Precast Splicing System in fire-resistance-rated construction is outside the scope of this evaluation report.

2.20 The Dextra Groutec Precast splicing system for steel reinforcing bars recognized in this report is produced in Bangkok, Thailand.

3.0 PRODUCT USE

3.1 General: The Dextra Groutec Precast Splicing System is a mechanical splice for deformed steel reinforcing bars (rebars) installed in reinforced concrete structural members. The systems conform to Section 25.5.7.1 of ACI 318-19 and -14 for the 2021, 2018, and 2015 IBC, and Section 12.14.3.2 of ACI 318-11 for the 2012 IBC (Section 21.1.6 of ACI 318-08 for the 2009 IBC), for use as tension and compression mechanical splices of deformed steel reinforcing bars (rebars). The system also complies with Section 18.2.7.1 of ACI 318-19 and -14 for the 2018 and 2015 IBC, and Section 21.1.6.1 of ACI 318-11 for the 2012 IBC (ACI 318-08 for the 2009 IBC), as Type 1 and Type 2 mechanical splices. The Groutec Precast Splicing System may also be used where an engineering design is submitted in accordance with Section R301.1.3 of the IRC as illustrated in Tables 1 and 2 of this report and consists of:

- Groutec L Mechanical splice
- Groutec F Mechanical splice

3.2 Design and Installation

The Dextra Groutec Precast Splicing System shall be designed and installed in accordance with the IBC, ACI 318, this evaluation report, and the manufacturer's published installation instructions. Where conflicts occur, the more restrictive shall govern. Installation shall be limited to Exposure Category F1, as defined in Section 19.3.1 of



ACI 318-19 and -14 and Section 4.2.1 of ACI 318-11 and -08. Applicable design and installation requirements set forth in Section 12.15 of ACI 318 for reinforcement in tension or Section 12.16 of ACI 318 for reinforcement in compression shall be observed. Installations in special moment frames and special structural walls shall comply with Section 18.2.7 of ACI 318-19 and -14, and Section 21.1.6 of ACI 318-11 and -08. The splice locations shall be detailed on plans approved by the building official. Concrete protection (cover) described in IBC Chapters 7 and 19, and Sections 7.6 and 7.7 of ACI 318 shall be measured from the outside of the coupler.

4.0 PRODUCT DESCRIPTION

4.1 Product Information

4.1.1 Groutec L: The Groutec L Precast Splicing System consists of cylindrical couplers and cementitious grout. Each coupler has a tubular profile with a threaded end, multiple internal ridges, 25 mm (1 inch) diameter inlet port, and 20 mm (3/4 inch) diameter outlet port to receive the grout after the bars are placed into both ends, as illustrated in Figures 1 and 1A of this report. The couplers are provided with plastic port plugs and a dust cap at the unthreaded end. Optional accessories include a plastic threaded end cap, inlet pipes, and rubber port plugs.

The Groutec L couplers with dimensions shown in Table 1 of this report are designed to mechanically join No.5 (16 mm) through No.11 (36 mm) and 40 mm deformed reinforcing bars in accordance with:

- ASTM A615 Grade 60; or
- ASTM A706 Grade 60; or
- ISO 6935-2 Grade B500B; or
- TIS 24-2548 Grade SD50

The bar end preparation shall be in accordance with the Bar End Preparation Quality Manual (BEPQM) for BARTEC or ROLLTEC provided by DEXTRA.

4.1.2 Groutec F: The Groutec F Precast Splicing System consists of cylindrical couplers and cementitious grout. Each coupler has a tubular profile with an unthreaded end on both sides of couplers, multiple internal ridges, and 25 mm (1 inch) diameter for both inlet and outlet port to receive the grout after the bars are placed into both ends, as illustrated in Figures 4 and 5 of this report. The couplers are provided with plastic port plugs, a dust cap at one side of the coupler, and an end cap at the other side. Optional accessories include inlet pipes and rubber port plugs. The Groutec F couplers with dimensions shown in Table 2 of this report are designed to mechanically join:

- No.4 (12 mm) through No.11 (36 mm) reinforcing bars in accordance with:

- ASTM A615 Grade 60 and 80; or
- ASTM A706 Grade 60 and 80; or
- ISO 6935-2 Grade B500B and B500C; or
- TIS 24-2548 Grade SD50

- No.14 (40 mm) reinforcing bars in accordance with:

- ASTM A615 Grade 60; or
- ASTM A706 Grade 60; or
- ISO 6935-2 Grade B500B; or
- TIS 24-2548 Grade SD50

4.2 Material Information

4.2.1 Couplers

4.2.1.1 Groutec L: The Groutec L coupler is cast in one piece from steel conforming to Grade 65-45-12 and JIS FCD450-10 having a minimum tensile strength of 65,000 psi (450 MPa) and conforming to requirements specified for ASTM A536 and JIS G 5502.

4.2.1.2 Groutec F: The Groutec F coupler is cast in one piece from steel conforming to Grade 70-50-05 and JIS FCD500-7 having a minimum tensile strength of 72,600 psi (500 MPa) and conforming to requirements specified for ASTM A536 and JIS G 5502.

4.2.2 Grout: The grout shall comply with ASTM C1107 and shall be proportioned to achieve a minimum 28-day compressive strength of 11.1 ksi (76 MPa) when tested in accordance with ASTM C109. Storage, preparation, placement, and expiration date information shall comply with the instructions on the bags.

4.2.3 Reinforcing Bars: Reinforcing bars shall be uncoated, fishbone pattern, deformed steel bars complying with the standards listed in Section 3.1 of this report.

4.3 Installation: Installation instructions are supplied with the product and/or are available on the Dextra website (www.dextragroup.com) and as described below.

4.3.1 Groutec L: All reinforcement shall be clean and free from loose rust, oils, dust, and other foreign material. All foreign matter and water shall be removed from the couplers. The threaded reinforcing bar first shall be installed onto the coupler so that no exposed threads result. The second reinforcing bar is then fully inserted into the opposite end of the coupler to the engagement length range provided in Table 1 of this report. Typical details for fitting the reinforcing bars and end uses in reinforced concrete are shown in Figures 2 and 3 of this report.



4.3.2 Groutec F: All reinforcement shall be clean and free from loose rust, oils, dust, and other foreign material. All foreign matter and water shall be removed from the couplers. Both the first reinforcing bar and continuation reinforcing bar are fully inserted through the end caps into the opposite end of each other of the coupler to the engagement length range provided in Table 2 of this report. Typical details for fitting the reinforcing bars and end uses in reinforced concrete are shown in Figures 6 and 7 of this report.

4.3.3. Grouting: The couplers shall be oriented such that the outlet port is no higher than the inlet port. Nonshrink grout shall be mixed with clean water to result in the specified water-cement ratio (w/c) for the duration as per the grout manufacturer's specification. Pot life shall not exceed the grout manufacturer's instructions. Grout shall be proportioned to achieve a minimum compressive strength of 11.1 ksi (76 MPa) at 28 days as determined by testing on grout cube specimens in accordance with ASTM C109 and the sleeve manufacturer's recommendations. The grout shall be poured or pumped into the coupler inlet (larger for Groutec L) port until material exits and flows freely from the outlet (smaller for Groutec L) port. Immediately after grout outflow is observed, and before the pump nozzle is removed, a rubber plug shall be inserted into the outlet grout tube. Immediately upon removal of the nozzle from the inlet grout tube, a rubber stopper shall be inserted into the inlet grout tube in such a manner so as to prevent leakage of grout from the sleeve. All spaces within the coupler shall be fully packed with the grout, and excess grout shall be removed.

4.3.4 Grouting Testing: Grout strength shall be determined by testing of 2-inch (50 mm) cube specimens in accordance with ASTM C109. The grout cubes shall be kept in a curing box for 24 hours and then kept under the same condition as the job site until the compressive strength testing.

4.4 Special Inspection

4.4.1 General: Special inspection of the DEXTRA Groutec Precast Splicing System is required to be provided at the job site in accordance with Section 1705 of the 2021, 2018, 2015, and 2012 IBC (Section 1704 of the 2009 IBC). In addition to verifying the installation of steel reinforcing bar splices in accordance with this report, the special inspector shall verify the grade and size of reinforcing bars; reinforcing bar embedment length; coupler identification; grout identification; field preparation of components; grout mixing, grouting, curing and testing; and assembly of the components resulting in spliced bars.

4.4.2 Threaded Bars: Threaded bars required for Groutec L shall be threaded by a job site fabricator approved by Dextra and the building official. The job site fabricator shall demonstrate the following items to the satisfaction of the

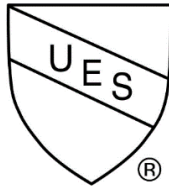
special inspector for each coupler type and steel reinforcing bar size:

- (i) The fabricator shall prepare the ends of the steel reinforcing bar in accordance with the Dextra Bar End Preparation Quality Manual (BEPQM) for BARTEC or ROLLTEC.
- (ii) For Type 2 splices, connections of each steel reinforcing bar using the fabricator-prepared steel reinforcing bars, tested in static tension, shall develop 100 percent of the specified tensile strength of the steel reinforcing bar and 125 percent of the specified yield strength of the reinforcing bar for use under the IBC or IRC. This may be demonstrated in test report(s) submitted to the building official. These tests shall be conducted prior to commencement, and periodically throughout the duration, of the job site preparation of the ends of the steel reinforcing bars. The frequency of the tensile tests shall be acceptable to the registered design professional for the building project, and the building official.
- (iii) For Type 1 splices, connections of each steel reinforcing bar using the fabricator-prepared steel reinforcing bars, tested in static tension, shall develop 125 percent of the specified yield strength of the steel reinforcing bar. This may be demonstrated in test report(s) submitted to the building official. These tests shall be conducted prior to commencement, and periodically throughout the duration, of the job site preparation of the ends of the steel reinforcing bars. The frequency of the tensile tests shall be acceptable to the registered design professional for the building project, and the building official.

There is no requirement for threaded bars for Groutec F.

5.0 IDENTIFICATION

Each crate of DEXTRA Groutec Couplers is packaged with a label bearing the manufacturer's name (Dextra Manufacturing Co., Ltd.) or brand name, address, model, and size, and the IAPMO Uniform ES Mark of Conformity and the Evaluation Report Number (ER-312) to identify the products recognized in this report. Each DEXTRA Groutec coupler is permanently stamped/labeled with the coupler size designation, production lot number, the Dextra coupler system mark or logo, and Type 2 designation. The following Mark of Conformity shall be used as shown:



IAPMO UES ER-312

6.0 EVIDENCE SUBMITTED

6.1 Data submitted in accordance with the ICC-ES Acceptance Criteria for Mechanical Connector Systems for Steel Reinforcing Bars (AC133).

6.2 Test reports submitted are from laboratories in compliance with ISO/IEC 17025.

7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on Dextra Groutec Precast Splicing System For Steel Reinforcing Bars to assess conformance to the codes shown in Section 1.0 of this report and serves as documentation of the product certification. Products are manufactured at locations noted in Section 2.14 of this report under a quality control program with periodic inspection under the supervision of IAPMO UES.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org



TABLE 1—DIMENSIONS OF GROUPEC L COUPLERS¹

Bar		A	B	C	D	E	Minimum rebar engagement length ²	Maximum rebar engagement length ²
mm	No.	mm	mm	mm	mm	mm	mm	mm
16	#5	61	44	182	25	20	145	155
20	#6	65	48	195	25	20	150	160
22	#7	65	48	195	25	20	150	160
25	#8	68	50	220	25	20	165	180
28	#9	81	62	290	25	20	225	240
32	#10	81	62	290	25	20	225	240
36	#11	95	72	340	25	20	270	285
40	-	95	72	340	25	20	270	285

For inches: 1 mm = 0.04 inch

¹ Coupler dimensions in Table 1 of this report as shown in Figure 1 of this report are nominal dimensions

² Embedment lengths are illustrated in Figure 1A of this report.

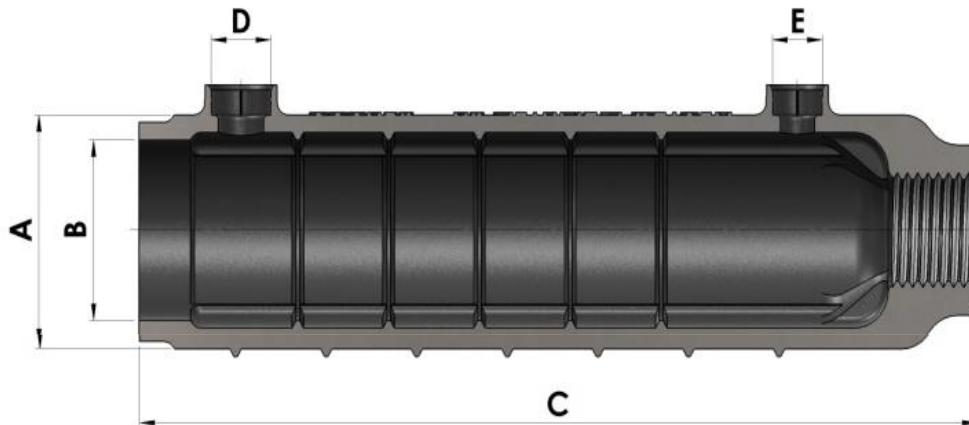


FIGURE 1—GROUPEC L COUPLERS SECTIONAL VIEW

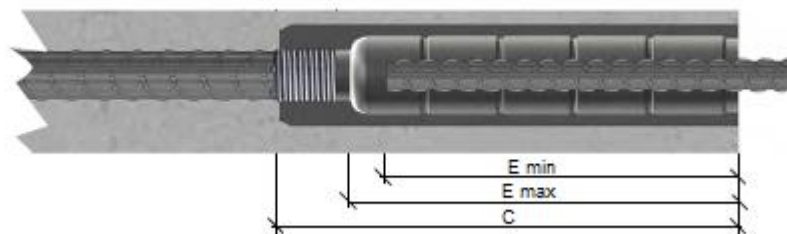


FIGURE 1A—GROUPEC L COUPLERS EMBEDMENT VIEW

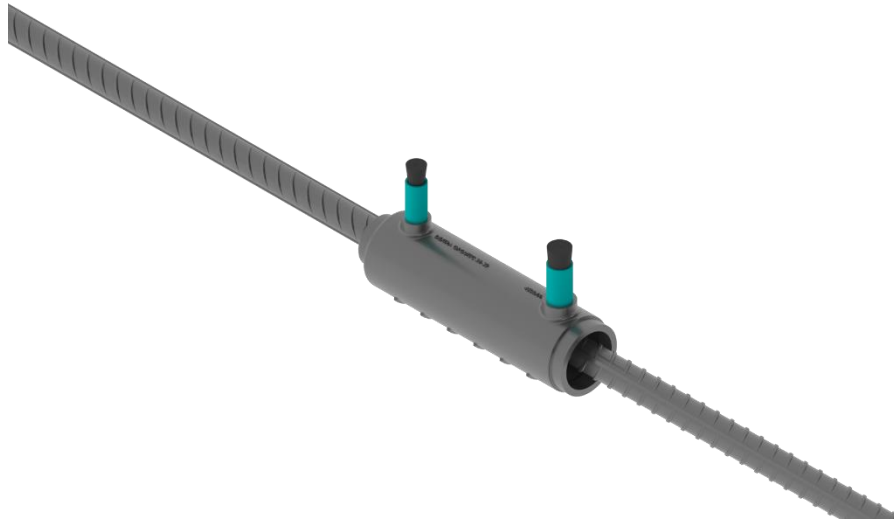


FIGURE 2—GROUTEC L COUPLERS FITTED TO REINFORCING BARS

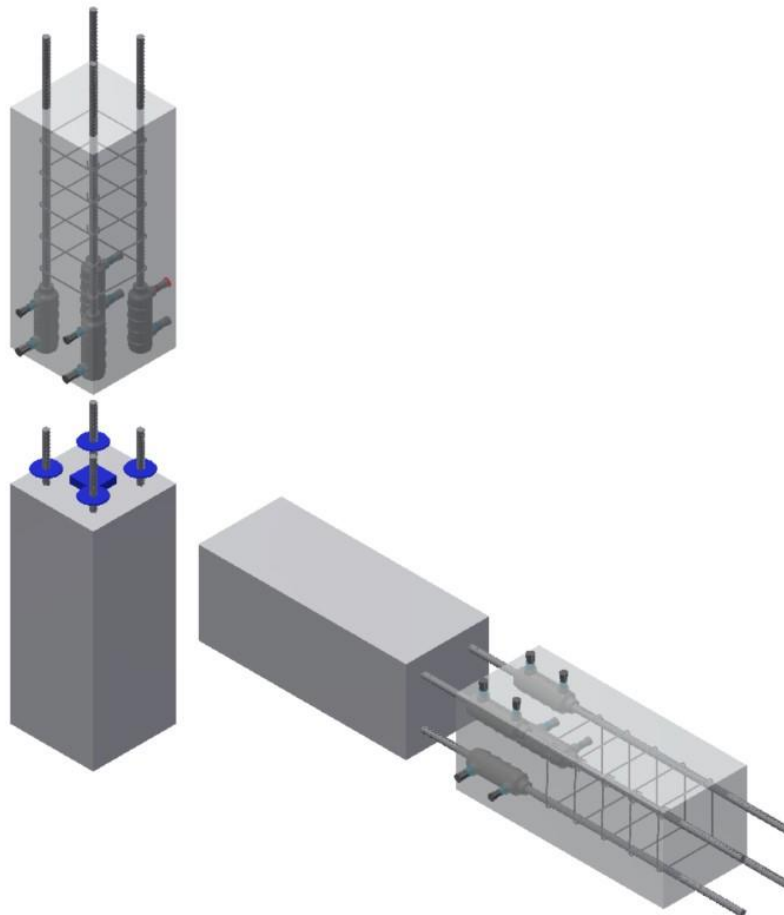


FIGURE 3—GROUTEC L COUPLERS APPLICATIONS IN REINFORCED CONCRETE



TABLE 2—DIMENSIONS OF GROUPEC F COUPLERS¹

Bar		A	B	C	D	E	F	Construction site ²		Factory site ²	
								Length		Length	
								E _c min	E _c max	E _c min	E _c max
mm	No.	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
12	#4	64	32	310	25	25	51	122	152	142	152
16	#5	64	32	310	25	25	51	122	152	142	152
20	#6	68	36	330	25	25	55	137	167	147	157
22	#7	73	41	380	25	25	60	167	167	167	177
25	#8	78	44	380	25	25	65	167	197	167	177
28	#9	83	48	460	25	25	70	207	237	207	217
32	#10	88	51	500	25	25	75	227	257	227	237
36	#11	98	55	580	25	25	81	267	297	267	277
40	#14	103	62	600	25	25	90	287	317	267	277

For inches: 1 mm = 0.04 inch

¹ Coupler dimensions in Table 2 of this report as shown in Figure 4 of this report are nominal dimensions

² Embedment lengths are illustrated in Figure 5 of this report.

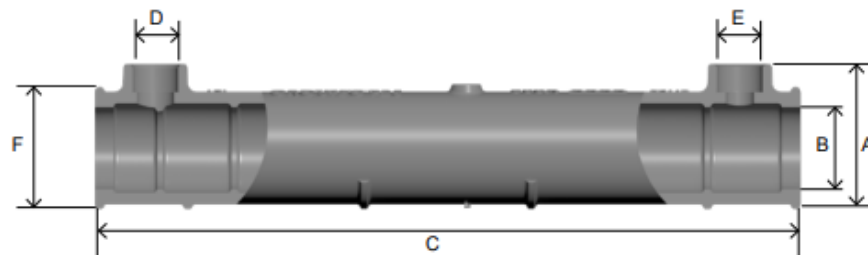


FIGURE 4—GROUPEC F COUPLERS SECTIONAL VIEW

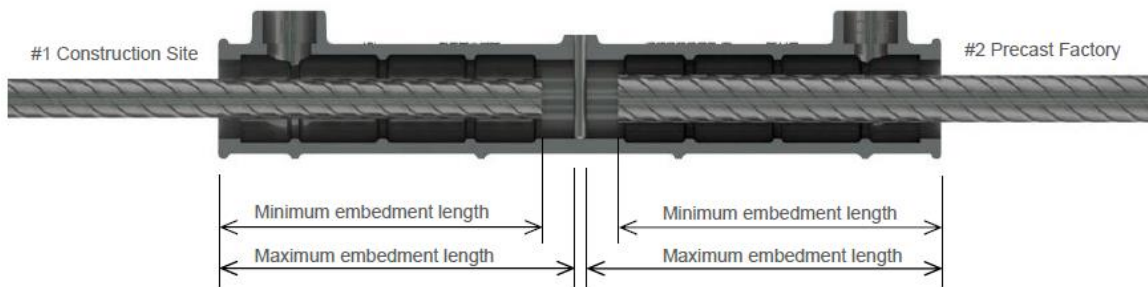


FIGURE 5—GROUPEC F COUPLERS EMBEDMENT VIEW

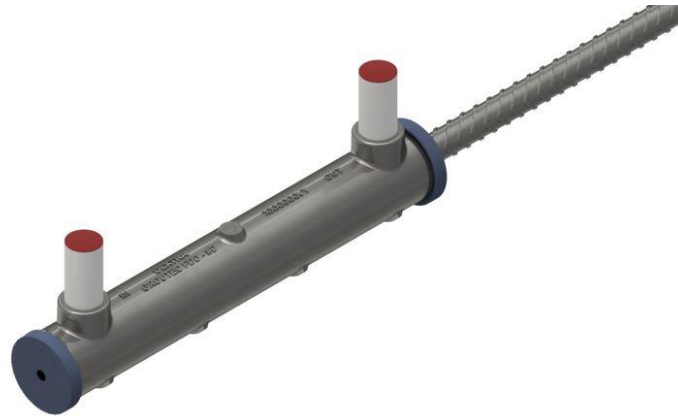


FIGURE 6— GROUTEC F COUPLERS FITTED TO REINFORCING BARS

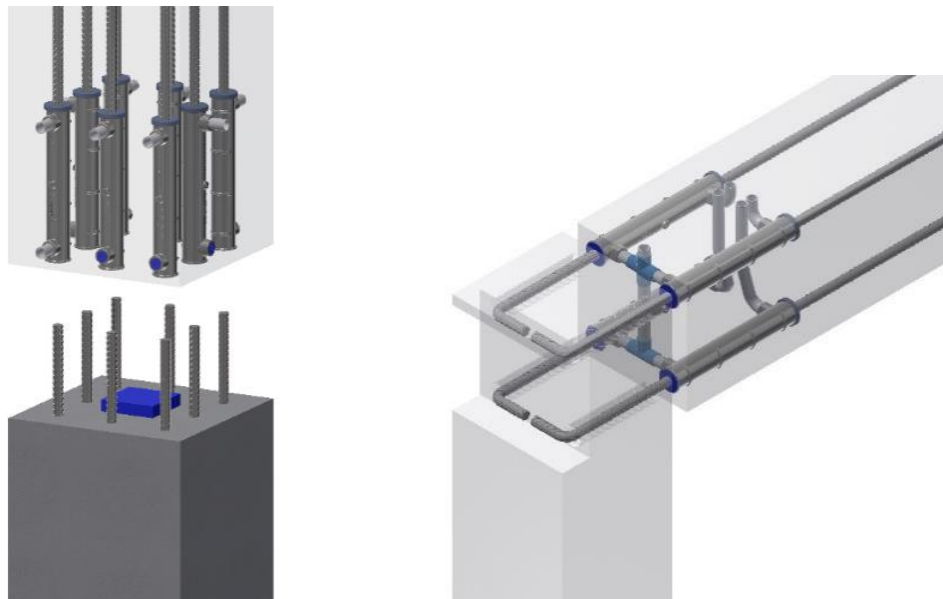


FIGURE 7— GROUTEC F COUPLERS APPLICATIONS IN REINFORCED CONCRETE



CITY OF LOS ANGELES SUPPLEMENT

DEXTRA MANUFACTURING CO., LTD.
247 Sarasin Road, Lumpini, Pathumwan
Bangkok, Thailand
www.dextragroup.com

DEXTRA MECHANICAL SPLICE SYSTEM

CSI Division: 03 00 00—CONCRETE
CSI Section: 03 21 00—Reinforcing Steel

1.0 RECOGNITION

The DEXTRA Groutec Precast Splicing System described in ER-312 and this supplemental report has been evaluated for use as mechanical splices for deformed steel reinforcing bars (rebar) in reinforced concrete structural members. The DEXTRA Groutec Precast Splicing System has been evaluated for structural performance properties, subject to the requirements in ER-312 and this supplemental report. The DEXTRA Mechanical Splice System was evaluated for compliance with the following codes and regulations:

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

2.0 LIMITATIONS

Use of the DEXTRA Groutec Precast Splicing System recognized in this supplement is subject to the following limitations shown in ER-312:

2.1 Continuous special inspections of the DEXTRA Groutec Precast Splicing System during installation shall be provided by Registered Deputy Inspectors as required by Section 1705 of the LABC. The Registered Deputy Inspector shall verify the following: hardware and equipment; cleaning and condition of the bars in accordance with the specifications and the applicable code; and the installation procedures comply with the specifications and the manufacturer's published installation instructions.

2.2 The fabricator of the steel couplers shall be required to maintain a detailed procedure for material control and suitable procedures and records attesting that the specified coupler has been furnished. The applicable splice designation (Type 1 or Type 2) or coating, as applicable, shall be included in each packaging assembly prior to shipment from the fabricator's plant. The fabricator's identification mark designation shall be established and on record prior to fabrication. Couplers that are not identifiable from marking and test records shall be tested to determine conformity to this report. The fabricator shall furnish an affidavit of compliance and test data shall be provided upon request.

2.3 The DEXTRA Groutec Precast Splicing System shall be selected at the job site by the Registered Deputy Inspector or by the building inspector and shall be tested by an approved testing agency in accordance with Section 1703 of the LABC. The test shall be conducted on each different rebar size and the frequency of tests shall be as follows: one out of the first ten splices; one out of the next ninety splices; one out of the next one hundred splices. The splice shall develop in tension or compression, as required, at least 125 percent of the specified yield strength of the bar in accordance with Section 25.5.7.1 of ACI 318-14. For Type 2 splices, the splice shall develop at least 100 percent of the specified tensile strength of the steel reinforcing bar.

For Type 2 splices only, if failure of the tested splice occurs prior to obtaining the 125-percent of the specified yield strength and the 100-percent of the specified tensile strength, then 25-percent of all couplers shall be tested for both specified yield strength and specified tensile strength. If failure of the tested Type 2 splice occurs with testing of the 25-percent requirement, as stated above, then all couplers shall be rejected.

2.4 Minimum concrete cover and spacing between bars or sleeves shall be provided in accordance with Section 1808.8.2 of the LABC.

2.5 The DEXTRA Groutec Precast Splicing System shall be installed in accordance with the applicable code, manufacturer's installation instructions, and this supplement. A copy of the manufacturer's installation instructions or specifications shall be available on-site for all Registered Deputy Inspectors.

2.6 Splice locations shall be noted on the plans approved by the building official.

2.7 Only qualified operators completely familiar with the installation procedures and specifications shall perform the splicing.

2.8 This supplement expires concurrently with ER-312.

3.0 CONCLUSIONS

The DEXTRA Groutec Precast Splicing System described in ER-312, complies with LABC and LARC, given the design and installation is in accordance with the 2018 International Building Code® (IBC) and 2019 California Building Code (CBC), or 2018 International Residential Code® (IRC) and 2019 California Residential Code (CRC). Additional requirements of the LABC Chapters 16, 17, 18, and 19 shall apply.

For additional information about this evaluation report please visit www.uniform-es.org or email at info@uniform-es.org



CALIFORNIA BUILDING CODE SUPPLEMENT

DEXTRA MANUFACTURING CO., LTD.
247 Sarasin Road, Lumpini, Pathumwan
Bangkok, Thailand
www.dextragroup.com

DEXTRA Mechanical Splice System

CSI Division: 03 00 00—CONCRETE
CSI Section: 03 21 00—Reinforcing Steel

1.0 RECOGNITION

The DEXTRA Groutec Precast Splicing System described in ER-312 and this CBC and CRC supplemental report has been evaluated for use as mechanical splices for deformed steel reinforcing bars (rebar) in reinforced concrete structural members. The DEXTRA Groutec Precast Splicing System has been evaluated for structural performance properties, subject to the requirements in ER-312 and this CBC and CRC supplemental report. The DEXTRA Groutec Precast Splicing System was evaluated for compliance with the following codes and regulations:

- 2019 California Building Code (CBC)
- 2019 California Residential Code (CRC)

2.0 LIMITATIONS

Use of the DEXTRA Groutec Precast Splicing System recognized in this supplement is subject to the following limitations in addition to the limitations shown in ER-312:

2.1 Calculations and specifications verifying compliance with the DEXTRA Groutec Precast Splicing System shall be submitted to the building official for approval at the time of permit application. The DEXTRA Groutec Precast Splicing System calculations shall be prepared by a Civil or Structural Engineer registered in the State of California.

2.2 Periodic special inspection shall be provided in accordance with Section 1705.3 or 1705A.3 (DSA and OSHPD) of the CBC during installations of the DEXTRA Groutec Precast Splicing System.

2.3 Tests of reinforcing bars shall be provided in accordance with CBC Section 1909.2.4, 1910.2.2, or 1910A.2, as applicable.

2.4 The DEXTRA Groutec Precast Splicing System shall be installed in accordance with the CBC or CRC, as applicable, manufacturer's installation instructions, and this supplement. A copy of the manufacturer's installation instructions shall be available on-site for the building official and special

inspector. Where conflicts occur, the more restrictive shall govern.

2.5 For work in accordance with CBC Chapter 19A (DSA and OSHPD), construction documents shall include the type and location of mechanical splices of reinforcement, as set forth in CBC Section 1901A.5.

2.6 For use in foundation walls, minimum concrete cover, and spacing between bars or sleeves shall be provided in accordance with Section 1808.8.2 or 1808A.8.2 of the CBC. Concrete cover and spacing shall be measured from the outer surface of the DEXTRA Groutec Precast Splicing System.

2.7 Type 2 mechanical splices shall be provided in accordance with CBC 1905A.1.10 for DSA and OSHPAD regulated structures.

2.8 This supplement expires concurrently with ER-312.

3.0 CONCLUSIONS

The DEXTRA Groutec Precast Splicing System described in ER-312, complies with CBC and CRC, given the design and installation is in accordance with the 2018 International Building Code® (IBC) or 2018 International Residential Code® (IRC). Additional requirements of CBC Chapters 16, 17, 18, and 19 shall apply.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org



ABU DHABI SUPPLEMENT

DEXTRA MANUFACTURING CO., LTD.

247 Sarasin Road, Lumpini, Pathumwan

Bangkok, Thailand

www.dextragroup.com

DEXTRA MECHANICAL SPLICE SYSTEM

CSI Division: 03 00 00—CONCRETE

CSI Section: 03 21 00—Reinforcing Steel

1.0 RECOGNITION

The DEXTRA Groutec Precast Splicing System described in ER-312 and this Abu Dhabi supplemental report has been evaluated for use as mechanical splices for deformed steel reinforcing bars (rebar) in reinforced concrete structural members. The DEXTRA Groutec Precast Splicing System has been evaluated for structural performance properties, subject to the requirements in ER-312 and this Abu Dhabi supplemental report. The DEXTRA Groutec Precast Splicing System were evaluated for compliance with the following codes and regulations:

- 2013 Abu Dhabi International Building Code (ADIBC)

2.0 LIMITATIONS

Use of the DEXTRA Groutec Precast Splicing System recognized in this supplement is subject to the following limitations in addition to the limitations shown in ER-312:

2.1 The DEXTRA Groutec Precast Splicing System described in ER-312, complies with Chapter 19 of the 2013 ADIBC, given the design and installation is in accordance with the 2009 International Building Code® (IBC).

2.2 The specified compressive strength of concrete, f'_c shall not be less than 24 MPa (3,480 psi), when used in special moment frames and special structural walls in accordance with Section 21.1.4.2 of Appendix L in the 2013 ADIBC.

2.3 For structures regulated by Chapter 21 of ACI 318-08, as required by Section 21.1.5.2 of Appendix L in the 2013 ADIBC, where the DEXTRA Groutec Precast Splicing System is designed to resist earthquake-induced flexure and axial forces in frame members, structural walls, and coupling beams, mill certificates complying with ASTM A706M or BS EN4449 Class C, ASTM A615M Grades 280 and 420 or BS EN 4449 Class A or B reinforcement shall be submitted to the building official as evidence that the steel reinforcing bars are compliant.

2.4 Special inspection of the headed bars shall be provided at the jobsite as required by Sections 1704.4 and 1709.1 of the 2013 ADIBC. The special inspector is responsible for verifying identification of the deformed reinforcing bars, grade and size of reinforcing bars, proper joining of reinforcing bars with the precasted couplers as well as placement of the precasted coupler.

2.5 This supplement expires concurrently with ER-312.

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