

**APPROVED SUPPLIERS OF
MECHANICAL SPLICES FOR REINFORCING BARS**

BASIS OF ACCEPTANCE

1. Mechanical splices shall be used only when:
 - a. Detailed by the design drawings placed at an approved location
 - Detailed on the design plan
 - Or as approved by the engineer
 - b. Pre-approved brands as listed in this IM.
2. Acceptance of mechanical splices shall be on the basis of certification from an approved source.
3. Mechanical splices shall develop in tension or compression, as required, at least 125% of the specified yield strength of the bars being spliced.
4. Epoxy-coated mechanical splices shall be used with epoxy-coated reinforcing bars. Epoxy-coated reinforcing bars shall conform to the requirements of ASTM A-775 and IM 451.03B.
5. With each shipment to a project the suppliers shall furnish:
 - a. A letter of compliance with the Iowa DOT requirements and it shall include certification statement, project number, county and contractor's name.
 - b. Copies of mill test reports of steel used in the fabrication of the couplers and the reinforcing bars showing the chemical and mechanical properties
 - c. Couplers and reinforcing steel shall be made from steel melted and manufactured in the U.S.A.
 - d. Quantity of couplers shipped to the project.
6. Couplers shall be made from steel conforming to ASTM A-108
7. Couplers shall be suitable for connecting deformed reinforcing bars manufactured to the requirements of ASTM A615/A615M
8. Reinforcing steel shall meet the requirements of ASTM A-615 Grade 60

If epoxy coated couplers are used, then a certification statement shall be included and shall include the name of the epoxy coating company, powder brand, and compliance with ASTM A775 / A775M.

9. Suppliers shall retain records of coating reports and copies of mill test reports for a minimum period of three years.
10. Samples of mechanical splicers and steel reinforcement shall be secured at the project site. (one sample of any size of coated and one sample of uncoated)
11. A certification statement that couplers meet the ASTM requirement and the Iowa DOT specification requirements.

NEW DISTRIBUTOR / SUPPLIERS APPROVAL REQUIREMENTS

Prior to furnishing mechanical splices to a project the distributor, supplier, or fabricator shall request approval by submitting the following items:

1. A written application for approval shall be submitted to the Central Materials Office in Ames, Iowa, and shall contain the following items.
 - a. Source of steel
 - b. Grade of steel
 - c. Grade of couplers
 - d. Name of fabricator
 - e. Epoxy powder brand name and coater's name
2. Quality control procedures that the company has established to ensure material identity (heat number, source, etc.)
3. A typical example of certification documents that the company will furnish to Iowa DOT projects.
4. Test reports from independent / certified lab showing test compliance with the intended requirements.
5. Submit three different samples of three different sizes for testing (coated and uncoated)

Note 1. Epoxy-coated threaded couplers shall be used for splicing epoxy coated bars that comply to ASTM A 775 / A 775 M.

Note 2. Galvanized threaded couplers shall be used for splicing galvanized reinforcing bars that comply to ASTM A 767 / A 767 M.

Note 3. Stainless steel threaded couplers shall be used for splicing stainless steel reinforcing bars that comply to ASTM S 955 / A 955 M.

LIST OF PRE-APPROVED SUPPLIERS

<u>Fabricators / Suppliers</u>	<u>Product's Name</u>	<u>Address</u>
Barsplice Products, Inc.	BPI Taper Threaded Grip – Twist Couplers BPI Grip Couplers Zap Screwlok Couplers Double Barrel Zap Couplers BPI Barsplicer Couplers BPI Barsplicer Doughnut	4900 Webster Street Dayton, Ohio 45414
Dayton Superior Corp.	Mechanical Reinforcement – Connection System Taper-lock Rebar Threading System	4226 Kansas Ave. Kansas City, Kansas 66106
Erico, Inc.	Lenton Reinforced Bar Couplers	34600 Solon Road Solon, Ohio 44139-2695

Barsplice Products, Inc.

BPI Barsplicer are available for bar-sizes No. 4 through No. 11 (No. 13 through 36), Grade 60 (420). Bars can be spliced by the BPI bar-splicer methods. The bar-splicer system uses standard unified national coarse threads. Threaded couplers are used with bars that have matching exterior threads cut or rolled directly onto the ends of the reinforcing bars. The thread length on the bars is controlled by BPI (Barsplice Products, Inc.) to ensure proper thread engagement.

Manufacturer recommended installation tools are required.

Contact Tel: (937)275-8700 Fax: (937)275-9566 Email: bar@barsplice.com

Dayton/Superior Dowel Bar Splicer System

The Dayton /Superior Dowel Bar Splicer System is made of two pieces.

1. The Dowel Bar Splicer (DB-SAE) is a one-piece unit, integrally forged from Grade 60 rebar material. It is available in #4 through #11 sizes.

2. The Dowel IN (DI) is also manufactured from Grade 60 rebar material and is available in sizes corresponding to the DB-SAE splicer. The end of the bar is enlarged by forging before threading so that the cross sectional area of the bar is not reduced during threading operations.

Both pieces of the completed splice are manufactured from one single size of rebar material. The system does not require welding, coupling or extra pieces. Dowel-ins are available straight or hooked. The Dayton/Richmond Dowel Bar Splicer System is only approved as plain (with no epoxy coating).

DESCRIPTION – Lenton (Erico) Reinforcing Bar Coupler

Erico manufactures Lenton mechanical splicers. It is a tapered, threaded coupler, manufactured from high quality steel and behave as continuous lengths of reinforcing steel bars by providing full strength in tension, compression and stress reversal applications. The bar ends must be taper threaded using manufacturer’s bar threading equipment to ensure proper taper and thread engagement. Bars shall be installed to the manufacturer’s requirements.

The Lenton mechanical splice can be tightened using conventional wrenches in 4 - 4 1/2 turns. Erico also supplies adjustable torque wrenches. This wrench can be used to both install couplers and verify/inspect torque values after installation.

For best possible splice, Erico recommends the following torque wrench settings:

<u>Bar Size (English)</u>	<u>Bar Size (Metric)</u>	<u>Wrench Torque Settings</u>	
		<u>ft./lbs.</u>	<u>Nm²</u>
3	10	30	40
4	12	30	40
	14		80
5	16	90	120
	18		150
6	20	130	180
7	22	160	220
8	25 (24-26)	200	270
9	28	200	270
	30		300
10	32	200	300
	34		300
11	36	200	300
	38		
	40		
14	43		
	50		
18	57		

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