

NOTES:

GROUTED SPLICE COUPLER CRITICAL MAXIMUM DIMENSIONS		
BAR SIZE	OUTSIDE DIAMETER (IN.)	LENGTH OF COUPLER (IN.)
4	2.625	14.125
5	3.000	14.125
6	3.000	14.125
7	3.000	18.75
8	3.500	18.75
9	3.500	18.75
10	3.500	23.5
11	3.500	23.5
14	4.000	28.375
18	5.000	39.625

1. Octagonal cross sections are preferred due to the ease of fabrication. Other sections are allowed.
2. Shear reinforcement used for transverse column confinement reinforcement consists of spirals or hoops.
3. It is recommended to place the first grouted splice coupler on the column axis line to facilitate ease of construction.
4. Some grouted splice coupler manufacturers allow the use of oversized couplers in order to increase the setting tolerance for elements. This should only be allowed if supported by test results confirming the ability of the proposed oversized coupler to fully develop the rebar in question.
5. The table provided here should be used for the reinforcing detailing of the precast elements. In most cases, including the potential use of oversized couplers, the critical maximum dimensions provided in the table will be sufficient to satisfy the minimum requirements for spacing, cover, and embedment lengths of the precast element's reinforcement and thus, during the development of the shop drawings, the Fabricator shall make sure that these critical maximum dimensions are not exceeded. During the review of the shop drawings the Designer shall verify that the critical maximum dimensions provided in the table are not exceeded based on the actual coupler used.

Sources: Material specifications from the three most common suppliers (NMB Splice Sleeve, Lenton-Erico, Dayton Superior)

GROUTED SPLICE COUPLER CONNECTION SEQUENCE:

1. The grouting procedure shall be completed by Contractor's personnel that is experienced in the installation of grouted sleeves. Manufacturer training may be required for inexperienced staff.
2. Follow the written installation procedures of the coupler manufacturer. The following are general procedures that apply to most coupler manufacturers.
3. It is recommended that the element with the reinforcement bar extensions be fabricated with extended lengths.
4. Survey location and elevation of lower element.
5. Determine the required reinforcing bar extension lengths and the required shim heights based on the survey.
6. Cut the bar extensions to the required length based on the survey and the coupler manufacturer's recommendations. For coated bars, the ends of the bars need not be re-coated.
7. Place grout bed on top of lower element. The use of extra grout that is allowed to flow out during element placement is recommended. In lieu of pre-placement of grout bed, the grout can be flowed into place after element erection but prior to grouting of couplers.
8. Erect upper element to within the specified erection tolerances. Prevent bedding grout from flowing into coupler.
9. Maintain integrity of grout bed during setting operation. Repair grout that is displaced or gaps that develop in the grout joint using hand tools.
10. Brace the upper element.
11. Install grout in couplers following the manufacturer's written procedures. If the coupler is below the joint, the coupler grout can be installed prior to application of bedding grout.
12. Erection of subsequent elements above a connection should not commence until the connection has achieved adequate strength as determined through strength testing of the grout. The timing of subsequent construction steps should be specified in the bridge assembly plan.



LRFD BRIDGE

MANUAL, PART III

GROUTED SPLICE COUPLER DIMENSIONS AND CONNECTION SEQUENCE

PRECAST PIERS

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