

SUPERSEDED BY EB 15-031 EFFECTIVE 9/28/15		New York State Department of Transportation ENGINEERING INSTRUCTION	EI 11-009
Title: NEW STANDARD SPECIFICATION SECTION 709-15 GROUTED REINFORCING BAR SPLICE SLEEVES			
Target Audience: ☒ Manufacturers (18) ☐ Surveyors (33) ☒ Local Govt. (31) ☒ Consultants (34) ☒ Agencies (32) ☒ Contractors (39) ☐ _____ ()		Approved:  Arthur P. Yanrotti, PE, Acting Deputy Chief Engineer, Structures 7-6-11 Date	

ADMINISTRATIVE INFORMATION:

- This Engineering Instruction (EI) is effective beginning with projects submitted for the letting of January 12, 2012.
- This EI does not supersede any other issuance.
- The revisions issued with this EI will be incorporated into the next update of the Standard Specifications.

PURPOSE: The purpose of this EI is to issue a new standard specification, §709-15 Grouted Reinforcing Bar Splice Sleeves.

TECHNICAL INFORMATION:

- §709-15 Grouted Reinforcing Bar Splice Sleeves is used in construction to establish connections between precast concrete units and also to connect cast-in-place concrete pours to precast units.
- This technique can be used for rapid construction.
- The splice sleeve and the grout are a system and the system will appear on the Approved List.
- Grouted reinforcing bar splice sleeves can be made of plain steel, stainless steel, or steel with epoxy coating.
- Grouted reinforcing bar splice sleeves made of plain steel shall not be used with epoxy coated reinforcement.

IMPLEMENTATION: Main Office Design Quality Assurance Bureau will insert the revisions to the Standard Specifications into contract proposals beginning with projects submitted for the letting of January 12, 2012.

TRANSMITTED MATERIALS:

New section §709-15 Grouted Reinforcing Bar Splice Sleeves of the Standard Specifications. Both US Customary and metric versions are attached.

BACKGROUND: Grouted reinforcing bar splice sleeves are used in construction to establish connections between precast concrete units, and also to connect cast-in-place concrete pours to precast units. This technique is often used in rapid construction. As the Department continues to work toward the goal of "Get in, get out, and stay out," the use of grouted reinforcing bar splice sleeves will grow in importance.

CONTACT: Direct questions regarding this issuance to Duane Carpenter of the Office of Structures at (518) 457-5715 or via e-mail at dcarpenter@dot.state.ny.us.

Grouted Reinforcing Bar Splice Sleeves

Make the following changes to Standard Specifications Construction and Materials of May 4, 2006.

Add the following:

Page 348, **§556-2 MATERIALS:** add the following to the list of materials:
Grouted Reinforcing Bar Splice Sleeves 709-15

Page 374, **§563-2 MATERIALS:** add the following before **§563-3 CONSTRUCTION DETAILS:** 563-2.07 Grouted Reinforcing Bar Splice Sleeves shall meet the requirements of §709-15 Grouted Reinforcing Bar Splice Sleeves.

Grouted Reinforcing Bar Splice Sleeves

Make the following changes to Standard Specifications Construction and Materials of May 4, 2006.

Page 810, before **SECTION 710 – FENCE AND GUIDE RAIL**, add the following:

709-15 GROUTED REINFORCING BAR SPLICE SLEEVES

SCOPE. This specification covers the material requirements for grouted reinforcing bar splice sleeves. The splice sleeve and the grout constitute a system, and both parts of the system will appear together on the Approved List.

MATERIAL REQUIREMENTS

Grouted reinforcing bar splice sleeves may be made of plain steel, stainless steel, or steel with epoxy coating. Grouted reinforcing bar splice sleeves made of plain steel shall not be used with epoxy coated reinforcement. Grouted reinforcing bar splice sleeves will be tested for the following parameters using California Test 670:

The total slip shall be a maximum of:

#10 to #19	0.25 mm
#22 to #29	0.35 mm
#32 to #36	0.45 mm
#43	0.60 mm
#57	0.75 mm

The ultimate tensile strength of the splice shall be at least 125% of the yield strength of the reinforcing bar. Tensile testing will be performed according to ASTM A370.

In addition, the manufacturer shall submit test data as set forth in AASHTO LRFD 5.5.3.4 for grout-filled sleeves. The results shall show that the fatigue resistance of the splice meets the set criteria. The sample preparation, testing methodology, and data analysis shall all be conducted by a certified and independent laboratory using the same methodology as that used in NCHRP 10-35.

The grout shall be as supplied by the manufacturer of the splice sleeve, and shall be the same grout that appears on the Approved List.

BASIS OF ACCEPTANCE. Grouted reinforcing bar splice sleeves will be accepted on the basis of the manufacturer's name and location appearing on the Department's Approved List and a material certification that states the product conforms to this specification or, at the discretion of the Department, based on sampling and testing in accordance with the procedural directives of the Materials Bureau. *Buy America requirements apply.*

Grouted Reinforcing Bar Splice Sleeves

Make the following changes to Standard Specifications Construction and Materials of May 1, 2008.

Page 352, §556-2 MATERIALS: add the following to the list of materials:
Grouted Reinforcing Bar Splice Sleeves 709-15

Page 379, §563-2 MATERIALS: add the following before **§563-3 CONSTRUCTION DETAILS:** 563-2.07 Grouted Reinforcing Bar Splice Sleeves shall meet the requirements of §709-15 Grouted Reinforcing Bar Splice Sleeves.

Grouted Reinforcing Bar Splice Sleeves

Make the following changes to Standard Specifications Construction and Materials of May 1, 2008.

Page 852, before **SECTION 710- FENCE AND GUIDE RAIL**, add the following:

709-15 GROUTED REINFORCING BAR SPLICE SLEEVES

SCOPE. This specification covers the material requirements for Grouted Splice Sleeves. The splice sleeve and the grout constitute a system, and both parts of the system will appear together on the Approved List.

MATERIAL REQUIREMENTS

Grouted splice sleeves may be made of plain steel, stainless steel, or steel with epoxy coating. Grouted splice sleeves made of plain steel shall not be used with epoxy coated reinforcement. Grouted splice sleeves will be tested for the following parameters using California Test 670. The total slip shall be a maximum of:

#3 to #6	0.010 in.
#7 to #9	0.015 in.
#10 to #11	0.020 in.
#14	0.025 in.
#18	0.030 in.

The tensile strength of the splice shall be at least 125% of the yield strength of the reinforcing bar as tested according to ASTM A370.

In addition, the manufacturer shall submit test data as set forth in AASHTO LRFD 5.5.3.4 for grout-filled sleeves. The results shall show that the fatigue resistance of the splice meets the set criteria. The sample preparation, testing methodology, and data analysis shall all be conducted by a certified and independent laboratory using the same methodology as that used in NCHRP 10-35.

The grout shall be as supplied by the manufacturer of the splice sleeve, and shall be the same grout that appears on the Approved List.

BASIS OF ACCEPTANCE. Grouted Reinforcing Bar Splice Sleeve systems will be accepted on the basis of the manufacturer's name and location appearing on the Department's Approved List and a material certification that states the product conforms to this specification or, at the discretion of the Department, based on sampling and testing in accordance with the procedural directives of the Materials Bureau. *Buy America requirements apply.*