

chromium (ASTM A1035/A1035M), or any type other than ASTM A615 “black” reinforcing steel shall not be specified without prior review and approval of the Bridge Design Engineer Administrator.

5.4.4—Prestressing Steel

5.4.4.1—General

The following shall replace A5.4.4.1.

The preferred diameter of prestressing strands is 0.6 in.

Use of 0.5 in. diameter strands is acceptable.

The use of 0.375 in. diameter strands in the top flange of prestressed concrete girders to assist in supporting stirrups and controlling temperature shrinkage is acceptable. The use of 0.375 in. diameter strands as primary strands for special circumstances shall be approved by the Bridge Design Engineer Administrator.

Prestressing steel shall be low relaxation strand Grade 270.

Stress-relieved (normal relaxation) strands shall not be allowed.

High-strength steel bars shall be ASTM A722 Type 1 (Plain) or Type 2 (Deformed) Grade 150.

5.4.5—Post-Tensioning Anchorages and Couplers

The following shall supplement A5.4.5.

Use of strand couplers is not allowed.

5.4.6—Ducts

The following shall supplement A5.4.6.

Special provisions for ducts shall be prepared in accordance with industry best practices and recommendations from PTI, ASBI, FHWA and other applicable research. Special provisions shall be reviewed and approved by the Bridge Design Engineer Administrator.

C5.4.6

Applicable industry research publications:

- *PTI M55.1-03—Specification for Grouting of Post-Tensioned Structures*, second edition; Post-Tensioning Institute, Farmington Hills, MI. April 2003.
- *Federal Highway Administration—Post-Tensioning Tendon Installation and Grouting Manual*, Washington DC, May 2004.
- *VSL International LTD.—Grouting of Post - Tensioning Tendons* , Lyssach, Switzerland, May 2002.