



**SPECIAL PROVISION  
FOR  
STAINLESS STEEL BARS FOR CONCRETE REINFORCEMENT**

**Delaware County  
NHSX-020-9(204)--3H-28**

**Effective Date  
May 19, 2015**

**THE STANDARD SPECIFICATIONS, SERIES 2012, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.**

**120303.01 DESCRIPTION.**

This special provision addresses materials, handling and placement requirements specific to stainless steel reinforcing. Special care shall be required during fabrication, handling and placement of stainless steel reinforcing to prevent contamination of the stainless steel reinforcing.

**120303.02 MATERIALS.**

- A.** Stainless steel reinforcement bars shall be deformed and meet requirements of ASTM A 955 and be the grade, UNS designations, and types listed in Materials I.M. 452.
- B.** Supply bars that are free of dirt, mill scale, oil and debris. Stainless steel reinforcing bars shall be pickled to a bright or uniform light finish. Bars supplied displaying rust/oxidation, questionable blemishes, or lack of bright uniform pickled surface are subject to rejection.
- C.** Employ lifting, handling, securing and transport equipment and processes that will prohibit contamination of stainless steel reinforcing from fragments of carbon steel or other material residues/fragments. Minimize handling and re-handling of the stainless steel reinforcing bars. Do not drop or drag stainless steel reinforcing bars or bundles.
- D.** Store stainless steel reinforcing bars or bundles above ground on wooden supports with timbers placed between bundles when stacking is necessary. Place supports to prevent sags in the bundles. Store stainless steel reinforcing separately from uncoated reinforcing bars.
- E.** Fabricate and bend stainless steel bars using tools and equipment that have been thoroughly cleaned or otherwise modified to prohibit contamination from fragments of carbon steel or other material residues/fragments.

### **120303.03 CONSTRUCTION.**

- A.** Protect stainless steel from contamination during construction operations including cutting, grinding, or welding above or in the vicinity of the stainless steel.
  
- B.** Stainless steel reinforcing bars shall not be permitted to come into direct contact with uncoated reinforcing bars, bare metal form hardware, or any other bare or galvanized metals unless specifically approved herein or otherwise approved in writing by the Engineer. When practicable, stainless steel reinforcing shall maintain a minimum 1 inch clearance from bare or galvanized metals. When 1 inch clearance is not practicable, the stainless steel reinforcing shall be isolated from contact with bare or galvanized metals by a wrap of electrical tape or other approved means. The protective wrap shall encompass the full perimeter of the bar and shall extend at least 1 inch in each direction past the point of closest contact between the stainless bar and dissimilar metal. Stainless steel reinforcing bars are allowed to be in direct contact with undamaged epoxy coated reinforcing bars. Stainless steel reinforcing bars are allowed to be in direct contact with shear studs on steel girders.
  - 1. Bar Chairs.**
    - a.** Bar chairs for support of stainless steel reinforcing shall comply with one of the following:
      - 1)** Bar chairs fabricated from solid plastic, meeting the requirements of Materials I.M. 451.01.
      - 2)** Bar chairs fabricated from stainless steel. Stainless steel materials for the bar chairs must be compatible with the type of stainless steel materials used for the reinforcing bars.
      - 3)** Epoxy coated bar chairs meeting the requirements of Materials I.M. 451.01, except where prohibited by the contract documents. Care shall be taken during installation of epoxy coated bar chairs to prevent damage to the epoxy coating. Bar chairs exhibiting cracked or otherwise damaged epoxy coating shall be replaced.
    - b.** Non-coated carbon steel bar chairs shall not be permitted to support or come into direct contact with stainless steel reinforcing.
  
  - 2. Tie Wire.**
    - a.** Tie wire for stainless steel reinforcing shall comply with one of the following:
      - 1)** Tie wire coated with epoxy, plastic, nylon or other non-conductive materials. Care shall be taken during installation of coated wire ties to prevent damage to the protective coating. Wire ties exhibiting cracked or otherwise damaged protective coating shall be discarded and replaced with undamaged ties.
      - 2)** Stainless steel tie wire. Stainless steel materials for tie wire must be compatible with the type of stainless steel materials used for the reinforcing bars.
    - b.** Coated wire ties or stainless steel wire ties as noted herein shall be required for all bar tie locations in which a stainless steel reinforcing bar is present (includes stainless-to-stainless bar tie locations and stainless-to-epoxy coated bar tie locations.)
  
- C.** Prior to placing concrete, ensure the reinforcing bars are clean and exhibit a bright finish free of contaminants, oxidation or rust. Oxidation or rust on the bar surface shall not be permitted and shall be immediately brought to the attention of the Engineer.

At the discretion of the Engineer, isolated areas exhibiting minor oxidation or rust attributable to trace contaminants on the bar surface shall be thoroughly cleaned and treated with pickling paste marketed for such application. Bars exhibiting evidence of oxidation/rust not attributable to trace contaminants on the bar surface, or oxidation/rust otherwise suspected to have a negative impact on the intended performance and/or service life of the bar, shall be subject to rejection.

**120303.04 METHOD OF MEASUREMENT.**

The Engineer will measure Stainless Steel Reinforcing Steel by the pound. The Engineer will compute the stainless steel bar weight using the standard weight per foot of equivalent size carbon steel reinforcing bars (ASTM A615) regardless of which stainless steel alloy is provided.

**120303.05 BASIS OF PAYMENT.**

Payment is full compensation for providing, transporting and placing the stainless steel reinforcing bars with all component materials as described above.