

9330102 PRESTRESSING STAND AND BAR
COMMENTS FROM INTERNAL/INDUSTRY REVIEW

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Comments: (5-21-19, Internal)

SUBARTICLE 933-1.2 is deleted and the following substituted:¶

→ **933-1.2 Stainless Steel Strands for Prestressing:** The stainless steel strands for prestressing concrete members shall be a high strength stainless steel (HSSS) conforming to the chemical requirements of ASTM A276, UNS S31803 or S32205 (Type 2205), ~~and the mechanical and dimensional requirements of ASTM A416, except the minimum ultimate tensile strength shall be 240ksi. The mechanical and dimensional requirements shall follow the requirements of ASTM A416 except as modified by this Section. The breaking strength shall conform to the requirements of Table 1-1. The minimum yield strength shall be 85% of the breaking strength listed in Table 1-1. The total elongation under load shall not be less than 1.4%. Stainless steel strand shall conform to a size tolerance of +0.026 in., -0.006 in. from the nominal diameter measured across the crowns of the wires.~~¶

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Table 1-1 Breaking Strength Requirements of Stainless Steel Strand			
Nominal Diameter (in)	Nominal Cross Sectional Area (in ²)	Minimum Breaking Strength (kips)	Nominal Ultimate Tensile Stress (ksi)
0.52	0.167	40.1	240
0.62	0.231	55.4	240

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SUBARTICLE 933-1.3 is deleted and the following substituted:¶

→ **933-1.3 Carbon Fiber Reinforced Polymer (CFRP) Strands for Prestressing:** Obtain CFRP prestressing strands from producers currently on the Department's Production Facility Listing. Producers seeking inclusion on the list shall meet the requirements of Section 105. CFRP strand shall meet the requirements of this Section.¶

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SUBARTICLE 933-5.2.2 is deleted and the following substituted:¶

→ **933-5.2.2 Carbon Fiber Reinforced Polymer (CFRP) Strands:** Producers shall submit to the State Materials Office (SMO), a test report of the physical and mechanical property requirements in Table 5-1. Qualification testing shall be conducted by an independent laboratory approved by the Department for performing the FRP test methods. Three production LOTS shall be randomly sampled at the production facility by a designee of the SMO. The minimum number of specimens per production LOT shall be as indicated in Table 5-1. The coefficient of variation (COV) for each test result shall be less than 6%. Outliers shall be subject to further investigation in accordance with ASTM E178. If the COV exceeds 6%, the number of test specimens per production LOT may be doubled a maximum of two times, to meet the COV requirement. Otherwise, the results shall be rejected. A production LOT is defined as a LOT of CFRP strand produced from start to finish with the same constituent materials used in the same proportions without changing any production parameter, such as cure temperature or line speed.¶

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Response:
