

9330000 PRESTRESSING STRAND AND BAR INTERNAL/INDUSTRY REVIEW COMMENTS

Comments: (Date)

1.

strength shall be 240 ksi.¶ → 933-1.3 Carbon Fiber Reinforced Polymer (CFRP) Strands for Prestressing: Obtain CFRP prestressing strands meeting the requirements of this Section from producers that are currently on the Department's Production Facility Listing. Producers seeking to be placed inclusion on the Department's Production Facility Listing shall meet the requirements of Section 105. CFRP strand shall meet the requirements of ACI 440.4, following the test methods.	 Hewitt, Richard Recommend deleting ¶
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Response:

2. Language modified to ensure the testing is at the contractor's expense and the language isn't misconstrued to mean only the Department approval of the lab is at the contractor's expense

→ → → 933-5.2.2.2 Sampling: The Engineer will select a minimum total of 42 feet from each production LOT of CFRP strand for testing in accordance with Table 5-2. The minimum discrete sample length shall be 7 feet. At the Contractor's expense, testing shall be conducted by a Depart-approved, an ISO 17025 accredited laboratory approved by the Department, at the Contractor's expense. Each test shall be replicated a minimum of 3 three times per production LOT. Submit the test results to the Engineer for review and approval prior to
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Response:

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Comments: (12-8-16)

1. The Nominal Ultimate Tensile Strength (ksi) should be revised to Nominal Ultimate Tensile Stress (ksi).

Response:

2. Recommend changing Nominal Cross Sectional Area (in²) to three (3) decimal places similar to steel strand convention, and thereby adjusting the Nominal Ultimate Tensile Stress values appropriately. Changes for the CFRP Prestressing Strand and Bar Types are as follows:

Single Strand – 5mm Ø: Nominal Cross Sectional Area (in²) = 0.030

7-strand – 7.5 mm Ø: Nominal Cross Sectional Area (in²) = 0.050

7-strand – 10.5 mm Ø: Nominal Cross Sectional Area (in²) = 0.090

Single Strand – 9.5mm Ø: Nominal Cross Sectional Area (in²) = 0.110

7-strand – 12.5 mm Ø: Nominal Cross Sectional Area (in²) = 0.118; Nominal Ultimate Tensile Stress (ksi) = 347

Single Strand – 12.7mm Ø: Nominal Cross Sectional Area (in²) = 0.196; Nominal Ultimate Tensile Stress (ksi) = 301
7-strand – 15.2 mm Ø: Nominal Cross Sectional Area (in²) = 0.179; Nominal Ultimate Tensile Stress (ksi) = 341 19-strand – 20.5 mm Ø: Nominal Cross Sectional Area (in²) = 0.320
7-strand – 17.2 mm Ø: Nominal Cross Sectional Area (in²) = 0.234; Nominal Ultimate Tensile Stress (ksi) = 338
19-strand – 25.5 mm Ø: Nominal Cross Sectional Area (in²) = 0.472 ; Nominal Ultimate Tensile Stress (ksi) = 222 19-strand – 28.5 mm Ø: Nominal Cross Sectional Area (in²) = 0.621
37-strand – 35.5 mm Ø: Nominal Cross Sectional Area (in²) = 0.916 ; Nominal Ultimate Tensile Stress (ksi) = 206
37-strand – 40.0 mm Ø: Nominal Cross Sectional Area (in²) = 1.240 ; Nominal Ultimate Tensile Stress (ksi) = 218

Response:

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