



Florida Department of Transportation

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KEVIN J. THIBAUT, P.E.
SECRETARY

January 21, 2020

Khoa Nguyen
Director, Office of Technical Services
Federal Highway Administration
3500 Financial Plaza, Suite 400
Tallahassee, Florida 32312

Re: State Specifications Office
Section: **933**
Proposed Specification: **9330103 Prestressing Strand and Bar.**

Dear Mr. Nguyen:

We are submitting, for your approval, two copies of the above referenced Supplemental Specification.

The changes are proposed by Chase Knight from the State Materials Office to update the sizes and loads in conjunction with industry and Structures Design Office. As well as clarify material certification requirements.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via email to daniel.strickland@dot.state.fl.us.

If you have any questions relating to this specification change, please call me at 414-4130.

Sincerely,

Signature on file

Daniel Strickland, P.E.
State Specifications Engineer

DS/rf

Attachment

cc: Florida Transportation Builders' Assoc.
State Construction Engineer

PRESTRESSING STRAND AND BAR
(REV 12-3-19)

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.

Table 1-2 Typical Sizes and Loads of CFRP Prestressing Strands and Bars				
Type	Nominal Diameter (in)	Nominal Cross Sectional Area (in ²)	Nominal Ultimate Load (P _u) (kips)	Nominal Ultimate Tensile Stress (ksi)
Single Strand - 5.0mm Ø	0.20	0.02530	9.1	36400
7-strand - 7.95mm Ø	0.319	0.04850	17.8	3740
7-strand - 10.85mm Ø	0.431	0.090	33.12	36756
Single Strand - 9.5mm Ø	0.38	0.110	35.0	318
7-strand - 12.5mm Ø	0.49	0.1178	43.31	37047
Single Strand - 12.7mm Ø	0.50	0.196	59.0	301
7-strand - 15.2mm Ø	0.60	0.179	66.21	36941
19-strand - 20.5mm Ø	0.81	0.320	71	222
7-strand - 17.2mm Ø	0.68	0.234	86.679	338
19-strand - 25.5mm Ø	1.00	0.472	105	222
19-strand - 28.5mm Ø	1.12	0.621	134	216
37-strand - 35.5mm Ø	1.40	0.916	189	206
37-strand - 40.0mm Ø	1.57	1.240	270	218

SUBARTICLE 933-5.2.2.1 is deleted and the following substituted:

933-5.2.2.1 Material Acceptance: Submit to the Engineer a certification of analysis for each production LOT from the producer of the CFRP strand, confirming compliance with that the requirements of this Section are met. ~~The certifications shall conform to the requirements of Section 6.~~

PRESTRESSING STRAND AND BAR

(REV 12-3-19)

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.

Type	Nominal Diameter (in)	Nominal Cross Sectional Area (in ²)	Nominal Ultimate Load (P_u) (kips)	Nominal Ultimate Tensile Stress (ksi)
Single Strand - 5.0mm Ø	0.20	0.025	9.1	364
7-strand - 7.9mm Ø	0.31	0.048	17.8	370
7-strand - 10.8mm Ø	0.43	0.090	33.1	367
Single Strand - 9.5mm Ø	0.38	0.110	35.0	318
7-strand - 12.5mm Ø	0.49	0.117	43.3	370
Single Strand - 12.7mm Ø	0.50	0.196	59.0	301
7-strand - 15.2mm Ø	0.60	0.179	66.2	369
7-strand - 17.2mm Ø	0.68	0.234	86.6	338

SUBARTICLE 933-5.2.2.1 is deleted and the following substituted:

933-5.2.2.1 Material Acceptance: Submit to the Engineer a certificate of analysis for each production LOT from the producer of the CFRP strand, confirming compliance with the requirements of this Section.