

Specification Section 415

Subarticle 415-1

ORIGINATION

Date: 6-5-2025

Name: Alexander Lewis

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COMMENTARY

Referenced Spec section number in 932 changed. Due to limited guidance from governing industry standards such as ACI 440 risk of damage to FRP bars related to excessive UV exposure should be shifted to the producer & contractor. This will reduce confusion on projects. Lastly, it is unreasonable to restrict nonmetallic fasteners from use to tie FRP reinforcement. The intent is to open to alternative kinds without compromising quality. Thus an APL product category should be created as well. Additionally, APL office suggested adding the subsection of each material to the Materials section for document consistency.

INDUSTRY COMMENTS AND RESPONSES

(Please note all comments and responses are verbatim as received. The Specifications Office does not alter typos or grammar.)

BLACK = Comment **BLUE** = Specifications Response **GREEN** = Change Made to Specification

Name: Keith Waugh

Date: 7-3-2025

COMMENT: Based on field issues I had requested that 415-4.1 receive revision similar to: 415-4.1 Steel Reinforcement: Fabricate reinforcing bars as prescribed in the CRSI Manual of Standard Practice. Shop bend the reinforcement cold to the shapes indicated in the Plans. Bending adjustments may be performed in the field to correct issues regarding fabrication and installation tolerances or when shop bending is not practical. Do not hot bend or straighten, weld, or thermal cut reinforcing steel.

RESPONSE:

Thank you for the response. The Department will need to research the proposed language and discuss it with stakeholders.

ACTION TAKEN:

The Department will evaluate the proposed language and determine whether to implement the changes in the next cycle if the proposal meets its needs.

Name: Danielle Kleinhans

Date: 7-29-25

COMMENT: As a manufacturer of FRP reinforcement, in 'section 415-3 Protection of Material' I would like to express concerns about the limit of 120F for the maximum storage temperature. I have reviewed this with our internal quality team and would like to propose that a limit of 180F is acceptable with the caveat that the bars are not under stress at the time of storage/before handling (i.e. adequately supported) which may require some additional text in the first sentence of the section.

RESPONSE:

Thank you for your suggestions. The Department is currently collecting data and conducting research on this topic. Once conclusions are reached and discussions with stakeholders have taken place, the Department will consider revising or increasing the temperature threshold in the future. Given the variety of materials used in FRP systems, any changes will be aligned with ACI guidelines to ensure the quality and performance of FRP reinforcement.

ACTION TAKEN: No changes will be made at this time. However, once further information and data have been finalized, the Department will consider updating the requirements.