

LiteBar

Frequently Asked Questions

Q: Is Glass Fiber Reinforced Polymer, or GFRP rebar NEW?

A: No, fiberglass rebar has actually been around since WWII.

Q: Can you provide specific case studies showing successful long-term use of the product in various applications?

A: The performance of GFRP bars in two bridges more than a decade old are reviewed in the following report: [Long-Term Durability of GFRP Internal Reinforcement in Concrete Structures](#) Both bridges are located in the City of Rolla, Missouri: Walker Bridge (built in 1999), which consists of GFRP-reinforced concrete box culverts; and Southview Bridge (built in 2004), which incorporates GFRP bars in the post-tensioned concrete deck.

Q: How does LiteBar modulus of elasticity compare to steel?

A: One of the main differences between steel and GFRP is the relatively low modulus of elasticity of FRP rebar. It's an advantage over steel, since it is closer to the modulus of concrete. See the following report for additional details: [FRP Rebar in Slabs on Grade Benefit from Low Modulus of Elasticity](#)

Q: Can I bend LiteBar GFRP rebar?

A: LiteBar cannot be bent after the curing cycle. All bends need to be fabricated in the LiteBar manufacturing plant.

Q: Can I cut LiteBar GFRP rebar?

A: LiteBar can be cut with a manual rebar cutter, bolt cutters or grinder. However, a circular saw or cutting wheel is recommended.

Q: Is LiteBar ICC approved?

A: We have submitted an application to the ICC Evaluation Service. We expect to complete the process in 2019. Our engineers are already working on the quality documentation pursuant to ICC-ES AC10.

Q: Does LiteBar require special handling or installation?

A: Handle with gloves to reduce irritation from nuisance dust, slivers or abrasion. Safety glasses and dust mask should be used when mechanically altering the product (cutting, crushing, grinding, milling or other similar dust generating process).

Q: Is LiteBar stronger than Grade 60 rebar?

A: Yes, ½” LiteBar has a tensile strength of 126ksi. ½” Grade 60 is 60ksi.

Q: What is the weight of a 20’ stick of ½” LiteBar?

A: LiteBar weighs approximately 2.5lbs per stick

Q: Is LiteBar non-conductive?

A: LiteBar is both electrically and thermally non-conductive.

Q: Does LiteBar float when pouring concrete?

A: LiteBar is lighter than conventional steel and thus can, on occasion “float” when pouring certain concrete mixes of high slump.

Q: What is the required overlap for fiber to fiber and fiber to steel and related to size.

A: Please refer to ACI440.1R-06, 11.4

11.4—Tension lap splice

ACI 318-05, Section 12.15, distinguishes between two

types of tension lap splices depending on the fraction of the bars spliced in a given length

and on the reinforcement stress in the splice. For steel reinforcement, the splice length for a

Class A splice is 1.0ld, and for a Class B splice is 1.3ld. This classification for FRP applications

is inappropriate, as often the full tensile strength of the bar need not be developed; hence, it

is conservative to assume that all splices are Class B splices. Limited data are available for

the minimum development length of FRP tension lap splices.

(Benmokrane 1997; Mosley 2002). Consequently, a value of 1.3ld is recommended for all splices.

Q: Do you have any structural calculations samples?

A: Refer to later sections of ACI440.1R and AC454 for multiple structural calculations. These two files offer many different scenarios.