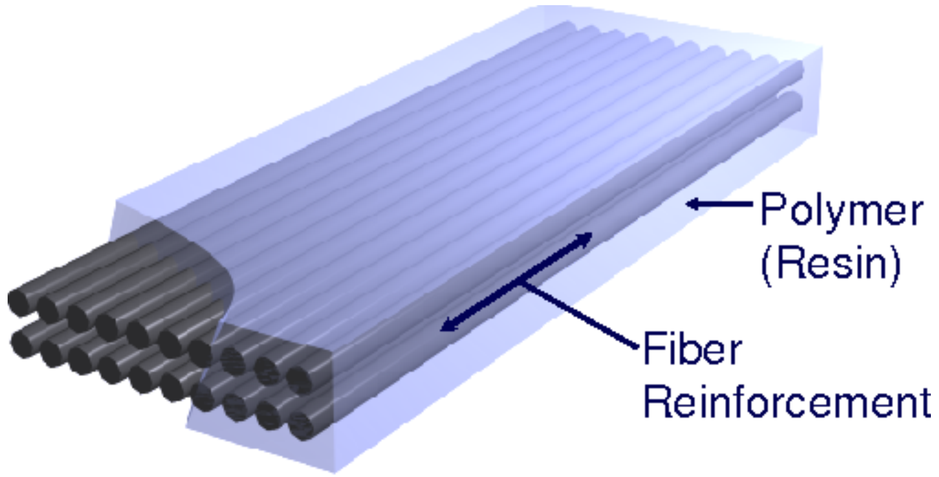
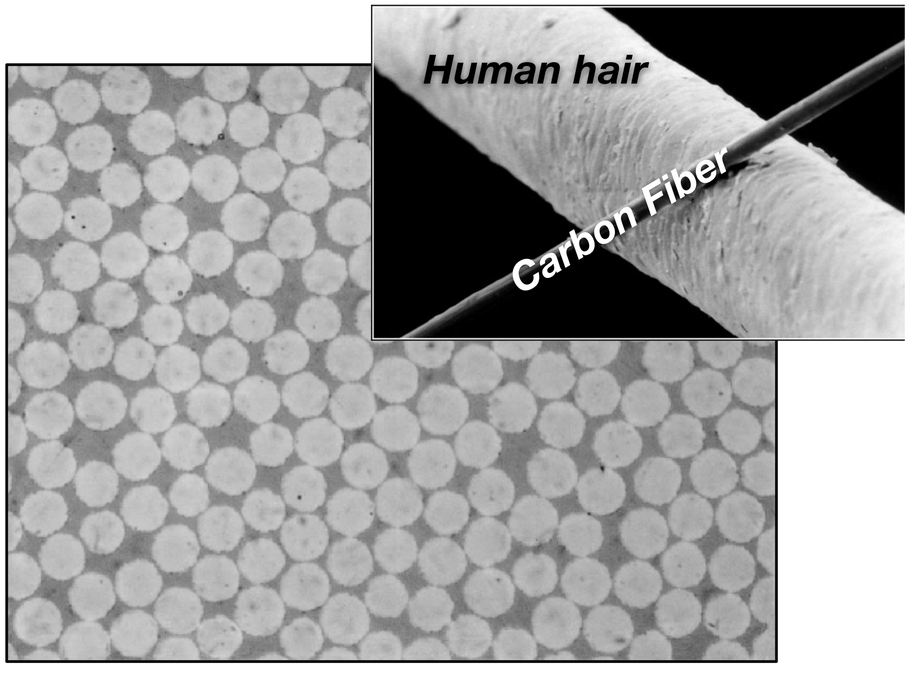
Welcome

CARBON® GUARD

Residential Project Estimator Training

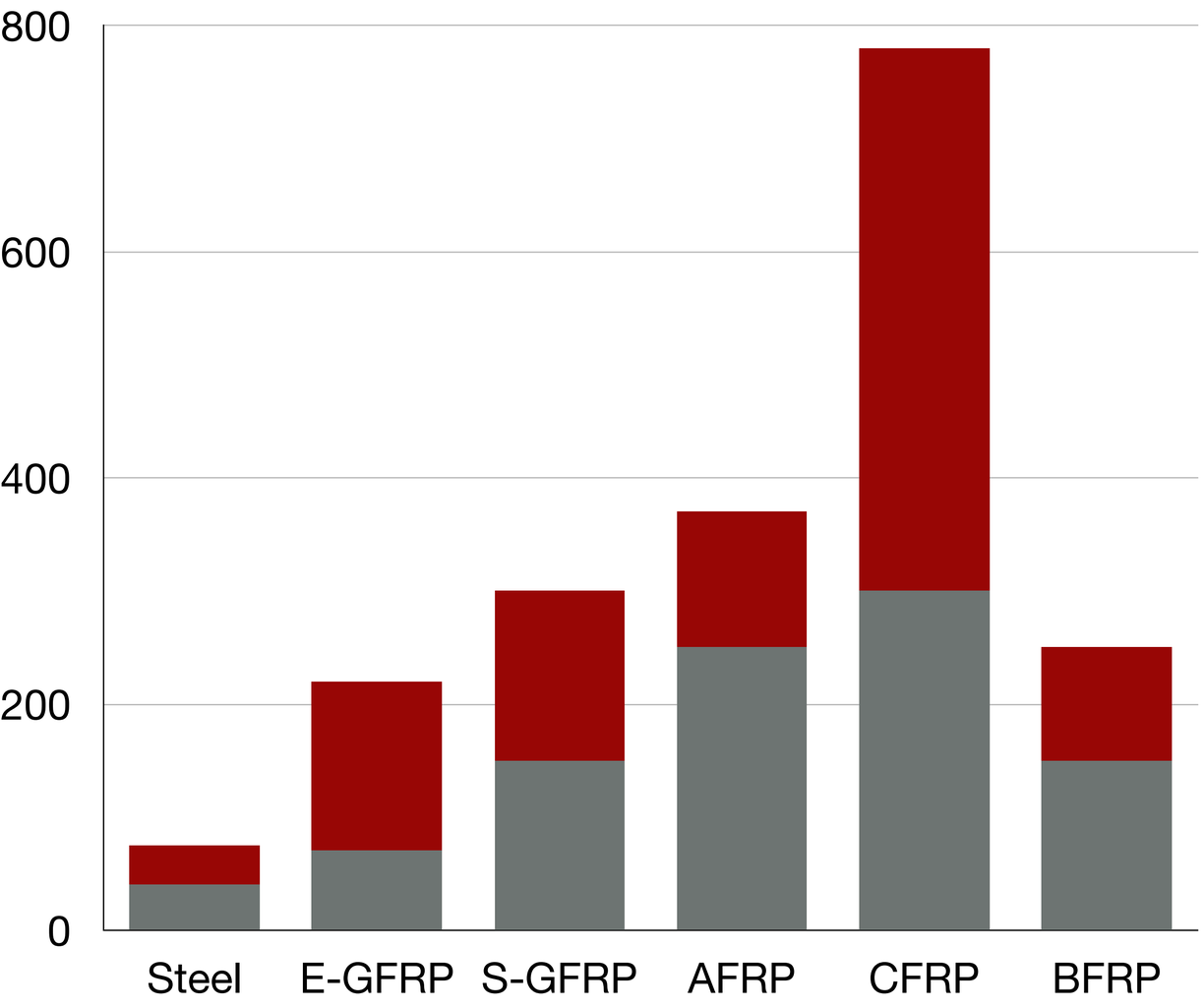
THE SCIENCE OF STRENGTH





- A Fiber Reinforced Polymer (FRP) is a composite material that uses natural or synthetic fibers to mechanically enhance the strength and stiffness of a polymer matrix.
- FRPs use long, straight, continuous fibers in a polymer matrix to provide excellent **TENSILE STRENGTH** in the direction of the fibers.
- Can be used for Flexural, Shear, and Axial strengthening of concrete structures.

THE SCIENCE OF STRENGTH



Tensile strength of FRP"s compared to yield strength of steel

Characteristics

- High tensile strength: 5-10 times that of steel
- High strength to weight ratio
- Non-corrosive
- Rigid: ≈10% the elongation of steel, ideal for strengthening and reinforcing

THE SCIENCE OF STRENGTH

VS.

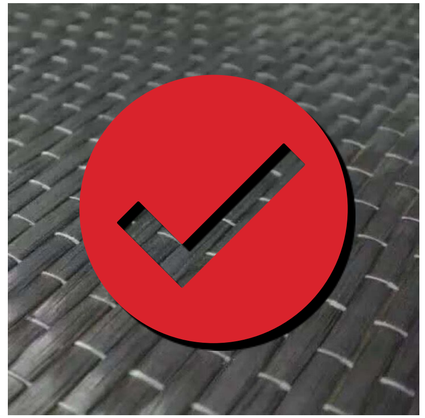
THE SCIENCE OF STRENGTH

Bidirectional

Provides strength in two directions, but compromises in tensile strength when woven.

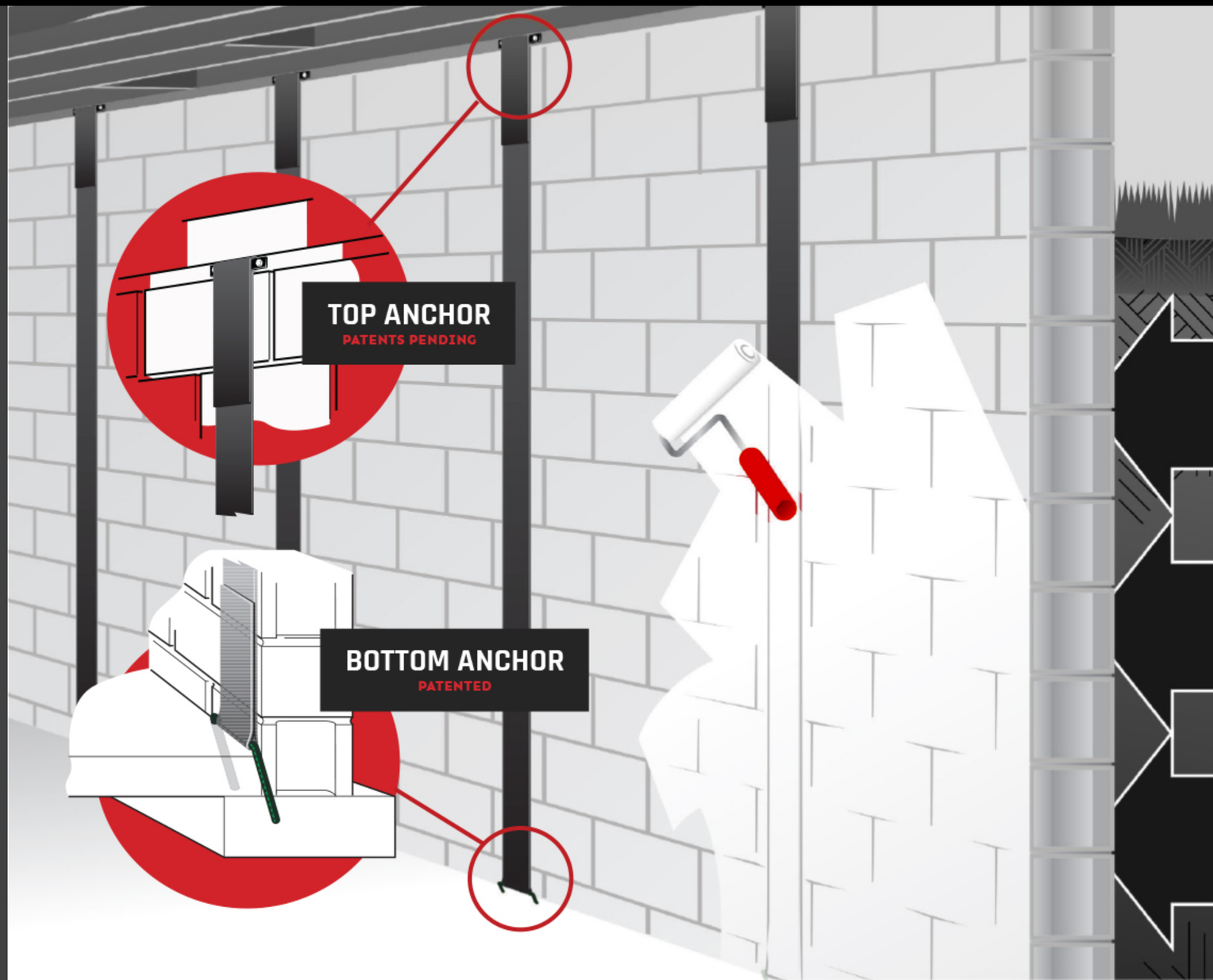
Unidirectional

Maximum tensile strength and can be layered in opposing directions if multi-directional reinforcement is needed.



WHAT MAKES CARBON GUARD BETTER?

- Top and Bottom Anchored
- Cleaner and faster installation
- Stronger, Unidirectional 450 GSM Carbon
- Stronger warranty



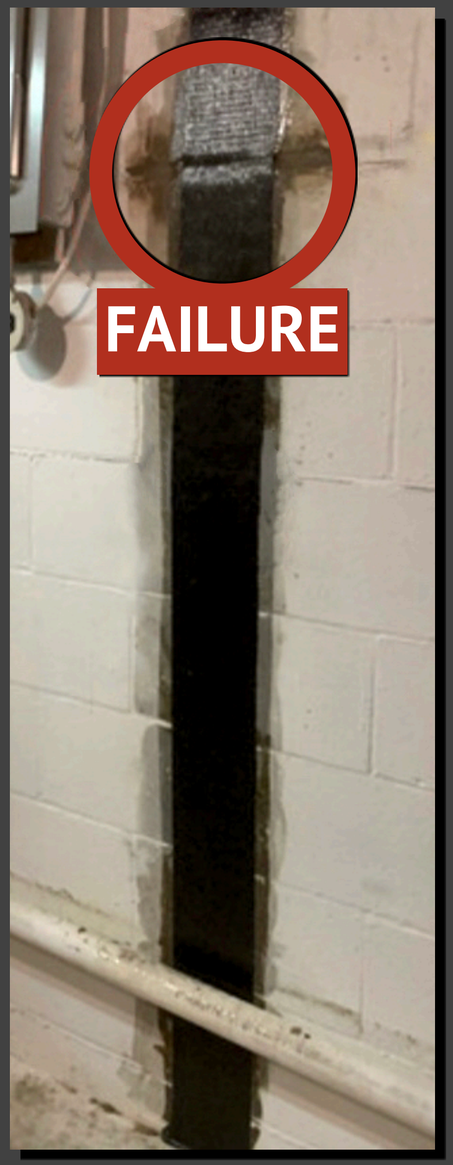
COMPONENTS

Sill Plate Top Anchor

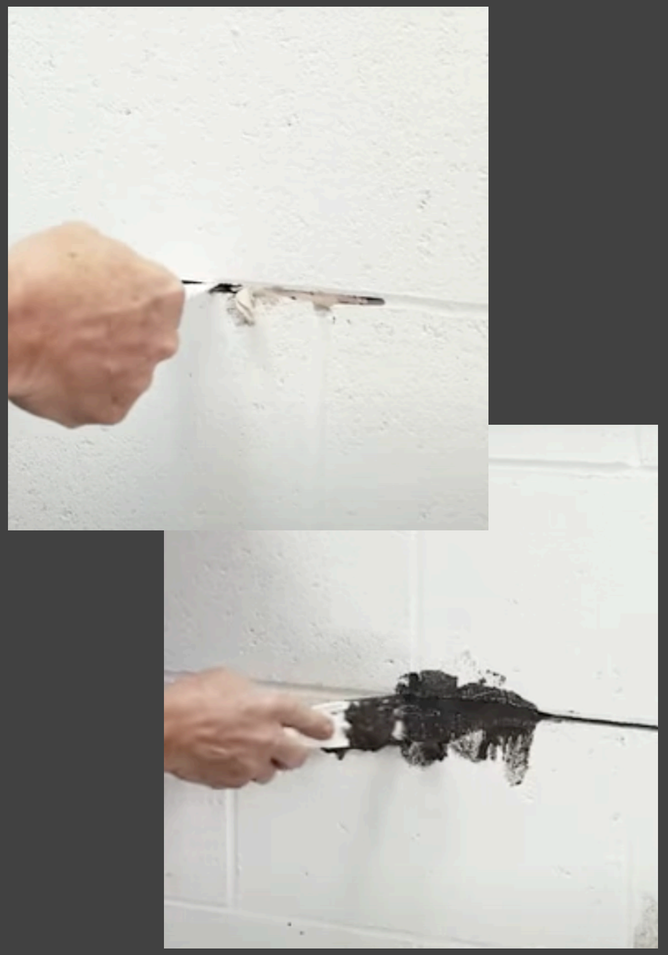
450’ GSM Unidirectional Carbon Fiber

Bottom Staple Anchor

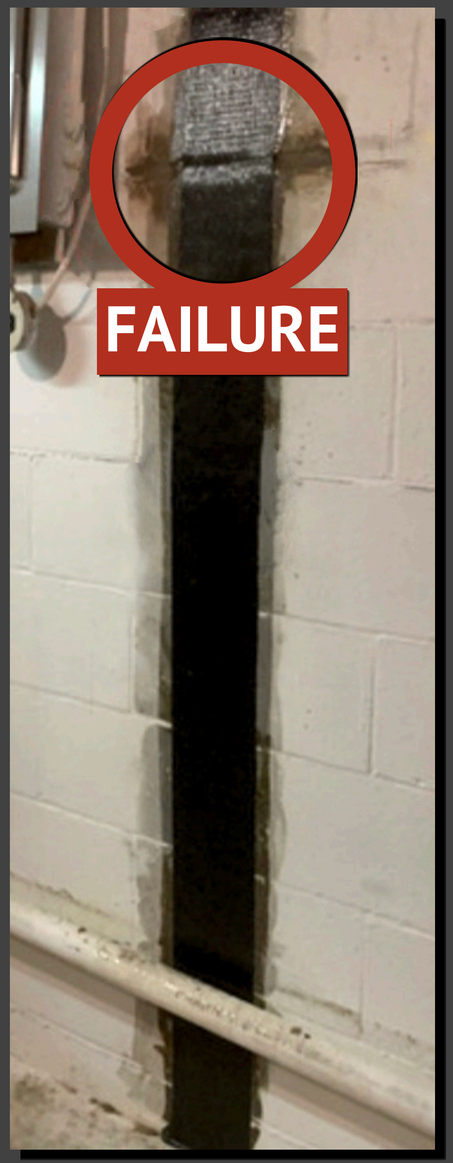
MAXIMIZING TENSILE STRENGTH



1. Wall Prep:
   - Expose substrate by removing paint
   - Create a flat surface by filling in mortar joints
   - Clean cracks and fill with high compression grout or epoxy

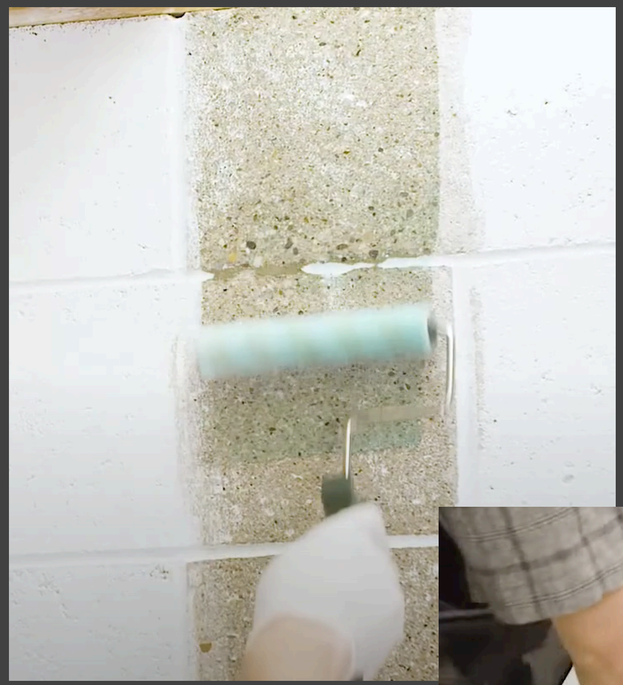


MAXIMIZING TENSILE STRENGTH

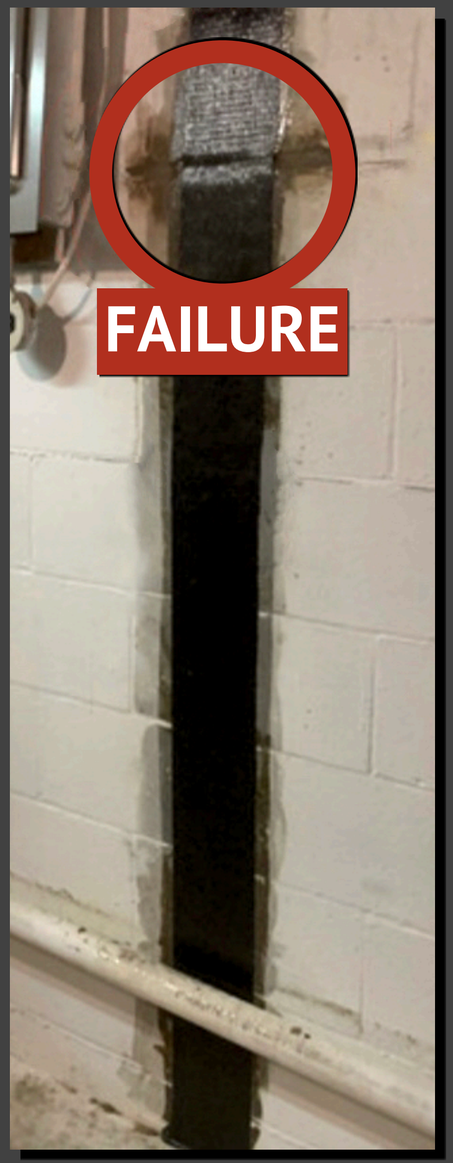


2. Saturation & Adhesion

- Fully Saturate the wall surface from sill plate to slab with saturant epoxy to maximize adhesion
- Saturate the entire strap from top to bottom to create a matrix allowing the carbon to stay in tension



MAXIMIZING TENSILE STRENGTH



3. Anchoring

- Top anchors keeps carbon in tension and helps prevent tipping: tie sill plate to floor joists if possible
- Patented “staple” bottom anchor keeps carbon in tension.
- Offers a cleaner and faster install than other anchors or shear pins