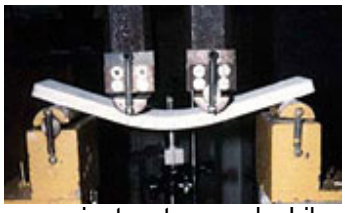
HELIX™
CONCRETE DURABILITY WITH A TWIST

Helix is unlike any REINFORCEMENT

Helix, with its unique twist, is unlike any reinforcement and provides a substantial improvement over rebar, steel fibers or mesh. By switching to Helix you are not just cutting costs. With Helix, you get something better, stronger and crack resistant. And since Helix is merely added with the other ingredients of the concrete and easily and uniformly mixed in the truck, implementation is easy and jobs can be completed much faster.

When concrete is stressed or bent, fibers — even those with hooked ends or corrugation — fail after frictional pull out. Helix's polygonal cross sectional shape and twist increases the frictional resistance. It's like trying to remove a corkscrew from a cork without twisting it. But much more importantly, the twist changes the failure mechanism from friction to a torsional or untwisting mode. The additional force required is so large that it results in performance never before possible requiring much lower dosages.



Helix was originally designed at the University of Michigan for earthquake and blast resistance in applications where rebar was just not enough. Like rebar, Helix is made from steel. And just as increasing rebar size from #4 to #6 increases strength, so does adding more Helix. Helix has been proven to meet or exceed rebar performance in every application of concrete you could name.

Using Helix offers several distinct advantages:

1. Superior structural strength and crack protection

- Unlike rebar or mesh, Helix increases the pre-crack Modulus of Rupture
- Adds post crack tensile strength
- Holds (micro) cracks together more tightly
- Works in all three dimensions and throughout the entire section of concrete
- Excellent shear protection

2. Improved corrosion resistance

- Helix is electrogalvanized (not just hot dipped) to provide added resistance to corrosion
- Helix has passed independent salt bath tests extending three times the normal duration

3. Added safety factor

- Helix will increase the moment resistance in both the positive and negative directions
- Helix reinforces throughout the concrete, not just where the rebar is
- Helix will increase the shear resistance
- No risk of placement error, which can easily reduce your design strength by 50%

We will engineer a Helix solution per ACI codes for you — and we stand behind our work. With over 10,000 independent tests and projects completed in 30 countries, we are confident Helix will work in your application and receive the engineer's approval.

www.helixsteel.com

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