

FSC Concrete Poles

SUPERIOR IN COST, FUNCTIONALITY AND DURABILITY



What the FSC Tech brings to Poles is:

- **LONGER LIFE CYCLE**

Due to the Lack of Corrosion for the Missing Steel Reinforcement. FSC has succeeded in eliminating Reinforcing Steel from Concrete Construction, replacing it with a new and extremely effective way of using FRP.

- **COST REDUCTION**

FSC Tech allows for less material usage.

- **LOWER ELECTRICAL CONDUCTIVITY**

Lower Electrical Conductivity compared to Current Concrete Poles.

- **DRASTIC REDUCTION OF CO₂ FOOTPRINT**

By eliminating the steel reinforcement, and the mass reduction, the system will have a significantly lower CO₂ footprint.

- **WEIGHT REDUCTION**

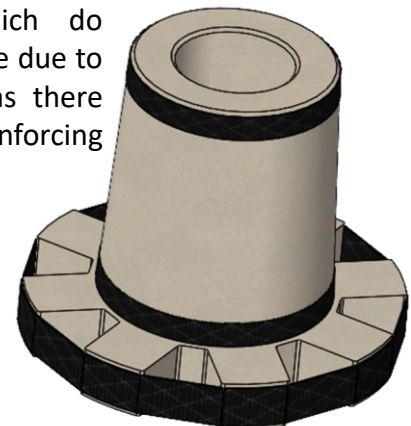
For the less material usage.

What the FSC Tech brings to the world of concrete products is:

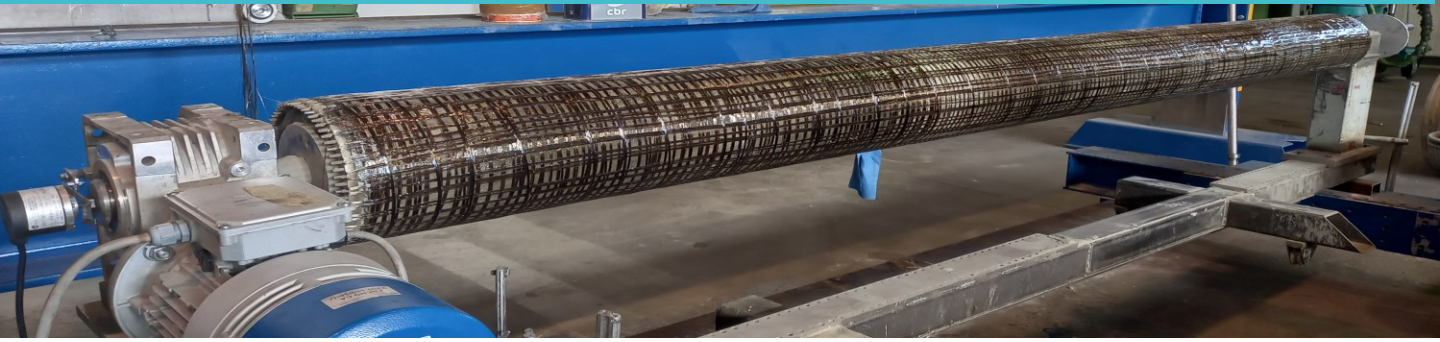
1. **Increased Strength** - a massive increase in flexural strength is provided, not achievable with current technologies.
2. **Reduced Cost** – the FRP system is substantially less costly than traditional steel reinforcement and allows for reduced product thicknesses.
3. **Longer Service Life** – the FRP is corrosion resistant and has higher operating service temperatures than steel.
4. **Drastic Reduction in CO₂ footprint** – eliminate steel, reduce concrete sections, replace or reduce OPC with low CO₂ binders, enables a large reduction in environmental footprint compared to the current steel reinforced concrete practice.

FSC Poles Foundation

The FSC reinforcing technology also enables the construction of cost effective and lighter foundation blocks which do not degrade due to corrosion as there is no reinforcing steel.



FSC Concrete Poles Features



- **DIFFERENT CONCRETE MIX IN THE VARIOUS POLE SECTIONS**

We can use different concrete in the various pole sections since we operate in a way that is like additive manufacturing, but much more efficient.

This means we can use UHPC at the pole base and move to less sophisticated mixes when we reach lower stressed areas.

- **CASTING PROCESS WITH AN INNER CORE MOLD ONLY**

Our process will use as an inner core mold only, which is a lot less expensive compared to centrifugal split jackets.

The core is removed after the FRP wrapping.



- **REINFORCEMENT: WRAPPING “IN TENSION” OF THE CONCRETE CORE WITH FRP, AFTER NORMAL CURING**

The wrapping FRP reinforcement provides a “confinement” of the concrete, in addition to the post compression.

This enables a significant increase in the pole performance even with the same concrete strength. The improvement depends on the geometries, but typically 50-150% increase in the compressive stresses is common.

Our reinforcement is mostly on the pole OD which is the location of the highest stresses. This contributes as well to the stress capacity. In some cases, we will place FRP inserts in the ID on the bases.