



# FRP PRIMER AND CORROSION INHIBITOR

## MAKE YOUR FRP APPLICATIONS STRONGER, MORE EFFECTIVE, AND CORROSION RESISTANT.

Using our custom FRP primer solutions, projects that utilize FRP applications can increase durability and the life of the applied laminate materials. By eliminating rebar corrosion and strengthening the concrete surface by eliminating laminate delamination, our solution is the perfect pairing to your FRP installation. Our primer is a group of products used as an underlayment for all types of concrete repairs, sealants, coatings, and FRP. Before surface repairs can be in place, the underlying causes of concrete deterioration need to be addressed.

### PROBLEMS WITH CURRENT FRP GUIDELINES

**GUIDELINE:** ACI 440.2R-08, Guide for the Design and Construction of Externally Bonded FRP Systems for Strengthening Concrete Structures  
**ISSUE:** Section 5.4.1.1 "Corrosion-related deterioration" discusses not applying the FRP strengthening system to a compromised substrate but offers no system, solution, or guidance as to how to accomplish this.

**GUIDELINE:** ACI 440R-07, Report on Fiber-Reinforced Polymer (FRP) Reinforcement for Concrete Structures  
**ISSUE:** Complete absence of discussion about health of the substrate that the FRP system will be applied to. In Chapter 10, "DURABILITY OF FRP USED IN CONCRETE" there is no discussion of FRP's durability as it relates to corrosion of the substrate.

**GUIDELINE:** ICRI Guideline No. 03742, Guide for the Selection of Strengthening Systems for Concrete Structures  
**ISSUE:** No discussion of treatment of substrate for externally or internally bonded FRP systems.

## LAGUARDIA AIRPORT

For this use case, our FRP Primer was utilized to increase the adhesion of the applied FRP. To test the effectiveness of our innovative FRP primer, ASTM D4541 Adhesion Testing was used to quantify the results. From that testing, and increase from **420 PSI to 540 PSI** was realized. That means a **28% increase** in strength thanks to our FRP primer increasing adhesion of the FRP systems.



The test was performed according to the ASTM 4541 testing guidelines

## PENN. DOT

Our FRP Primer was utilized to increase tensile strength of the concrete prior to FRP application. The following results were taken from 2 different beams on a bridge of the Pennsylvania DOT. The first results were taken on May 6th, 2021, prior to the application of SurCoPrimer Surface Adhesion and the second results were taken 8 days after the application on May 14th, 2021.

Beam	Puck Size	Before	After	Difference
Beam 1	50 mm	33 PSI	278 PSI	+ 245 PSI
Beam 1	50 mm	59 PSI	362 PSI	+ 303 PSI
Beam 6	50 mm	90 PSI	325 PSI	+ 235 PSI
Beam 6	50 mm	105 PSI	355 PSI	+ 250 PSI



The test was performed according to the ASTM 4541 testing guidelines

# FRP PRIMER FAQs

## WHAT IS A FRP PRIMER?

FRP Primer is a high- performance, anti-corrosive primer for use on concrete substrates where it is desirable to block current corrosive properties and prevent future corrosion formation prior to the application of FRP, coatings, overlays and other epoxy systems.

## WHAT ARE THE BENEFITS OF OUR FRP PRIMER?

Combined application our FRP primer on concrete surfaces prior to the application of FRP has proven to increase durability and life of the FRP System by eliminating rebar corrosion and concrete surface strength, which would cause delamination of the FRP

## HOW DOES YOUR FRP PRIMER STOP CORROSION & STRENGTHEN CONCRETE?

Our FRP & Corrosion Inhibitor is a surface applied product system for use on concrete surfaces in preparation for the installation of fiber reinforced polymer (FRP) reinforcing laminates.

**SurCoPrimer-** reacts with the concrete cement to increase dynamic tensile yield strength.

## IS THERE A WAY TO MEASURE THE EFFICACY OF THE FRP PRIMER?

**SCP** tensile yield strength increase is measured by ASTM C1538 and ASTM C7522.

# WHY CHOOSE SURTREAT®

## TECHNOLOGY

Our technology was created in partnership with NASA spinoff technologies, to extend the life span of concrete. **SURTREAT®** concrete solutions are the most effective way to restore the original properties of deteriorating concrete and to offer long-term corrosion protection.

## MATERIALS

Through a combination of **SURTREAT®** proprietary chemical formulations, **SURTREAT®** solutions penetrate into the concrete microstructure in liquid and vapor state to combine with the cement phase of concrete as well as deposit on the imbedded steel components.

## COST

An environmentally friendly solution for all concrete deterioration prevention and correction, **SURTREAT®** solutions are priced to keep concrete repair costs down directly, as well as indirectly with reduced future maintenance expenses. We offer many savings over traditional repair costs.

## QUALITY

**SURTREAT®** has been included in the Unified Facilities Guide Specifications (UFGS), a guide for specifications for military construction that is created by NASA, AFCEC, NAVFAC, and USACE. Multiple large scale, government projects include Surtreat's products.