



RHINO
CARBON FIBER
REINFORCEMENT PRODUCTS

CFRP CASE STUDY

SUNNYBROOK HOSPITAL CFRP RETROFITTING



LOCATION

North York, Ontario

PRODUCTS USED

- Rhino Carbon Fiber CFRP Laminate 1.21
- RCF Saturant-Adhesive Epoxy

CASE BACKGROUND

A contractor was hired to address a critical rehabilitation project on the ground floor of Sunnybrook Hospital, located at 2075 Bayview Ave, North York, ON. The areas requiring reinforcement were identified on structural drawings provided by an engineering firm.

For this rehabilitation project, the contractor selected **Rhino Carbon Fiber CFRP Laminate 1.21** as the primary reinforcing material due to its high-strength, resistance to corrosion, cost-effectiveness, light-weight and ease-of-application, and it met all the engineering requirements.

Rhino Carbon Fiber CFRP Laminate was bonded to the targeted repair areas using **RCF Saturant-Adhesive Epoxy**, ensuring a strong and long-lasting connection between the reinforcement and existing structure.



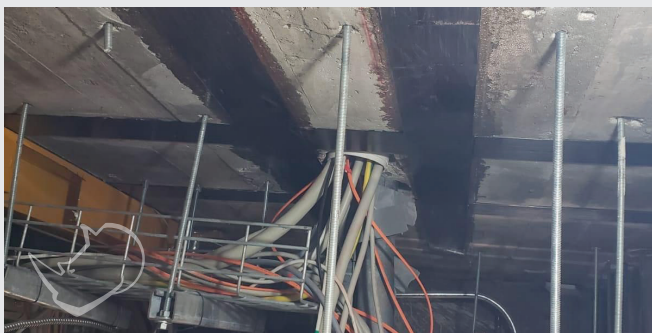
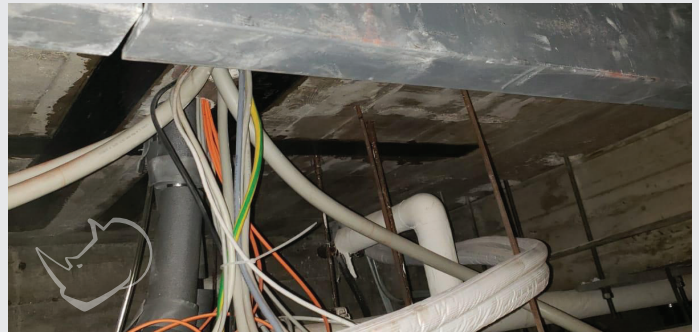
THE SOLUTION

The successful application of **Rhino Carbon Fiber CFRP Laminate** required meticulous surface preparation and precise installation techniques. The substrate surface was first roughened to the texture of an orange peel using a grinder equipped with a dust extraction hood to prevent dust generation and maintain a clean work environment. This preparation step was essential for achieving an effective bond between the existing concrete and laminate. Any additional materials or contaminants that could hinder adhesion were thoroughly cleaned from the surface.

The laminate strips were cut to the required lengths using heavy-duty shears, and the strips were then wiped clean to remove any residual debris or contaminants that could interfere with bonding. **RCF Saturant-Adhesive Epoxy**, a two-part system, was mixed according to the manufacturer's instructions, and the mixed epoxy was applied to the prepared concrete surface ensuring an even coverage.

The laminate strips were then coated with epoxy, applying a 3mm thick layer in the middle and a 1mm thick layer on the edges to guarantee consistent and adequate adhesion. The prepared CFRP laminate strips were carefully applied; using a hard rubber roller, technicians pressed the laminate strips firmly onto the concrete, ensuring full contact and squeezing out excess epoxy from the edges to achieve a uniform bond.

The installation process was executed smoothly and efficiently, resulting in the successful application of **Rhino Carbon Fiber CFRP Laminate** to 11 different utility locations. The rehabilitation has effectively enhanced the structural integrity of the affected areas, meeting all required engineering standards. The repaired areas now exhibit increased durability and strength, contributing to the overall safety and longevity of the hospital's infrastructure. This project exemplifies the contractor's commitment to utilizing advanced materials and techniques for structural reinforcement.



1-888-684-3889

www.rhinocarbonfiber.com

info@rhinocarbonfiber.com

© RHINO CARBON FIBER and all other RHINO design marks are trademarks of AGT Products Inc. and AGT Products (USA) Inc.

None of the authors, contributors, administrators, or anyone else connected with AGT Products Inc., its subsidiaries, or affiliates (collectively, "AGT"), in any way whatsoever, can be responsible for your use of the information, instructions, or advice contained in or linked from this or any related document. All liability with respect to actions taken or not taken based on the contents of this or any related document is hereby expressly disclaimed by AGT. The content of this document is provided "as is;" no representations are made that the content is error-free.