

GREENUMBRELLA®
PCR PERMANENT
CONCRETE REPAIR®



**NOT A PATCH.
IT'S PERMANENT.**

HORIZONTAL - VERTICAL - OVERHEAD / 10K+PSI / QUICK TO TRAFFIC



ARCHITECTURAL APPLICATIONS



ROADWAY REPAIR AIRPORT RUNWAYS BRIDGE DECK AND HIGHWAY OVERLAYS
DOWEL BAR REPLACEMENT TRUCK DOCKS COMMERCIAL FREEZER ROOMS
SETTING OF EXPANSION DEVICE NOSINGS



CONCRETE PAVEMENT JOINT REPAIRS PARKING DECKS AND RAMPS
ANCHORING IRON OR STEEL BRIDGE AND BALCONY RAILINGS
FULL-DEPTH STRUCTURAL REPAIRS INDOOR OR OUTDOOR APPLICATIONS

HORIZONTAL - VERTICAL - OVERHEAD / 10K+PSI / QUICK TO TRAFFIC

GREEN UMBRELLA®
PCR PERMANENT
CONCRETE REPAIR®



Green Umbrella® PCR®, designed for permanence, not just a temporary fix or patch. Permanent Concrete Repair is an industry-leading, high early strength, zero-shrink, water-proof component applied in half the time of traditional patch products. Adjust PCR® aggregate and activator for a project-specific consistency without a critical mix ratio. PCR® establishes a unique, tenacious bond for horizontal, vertical, or overhead repairs. The resulting matrix is resistant to chloride, petroleum, and other destructive contaminants. PCR®, formulated for use on virtually any damaged concrete: Repair cracks, spalling, or trip-hazards with structural strength. Stop the replacement cycle! PCR® is a permanent economic repair, reducing/eliminating costly concrete replacement.



**QUICK
TO
TRAFFIC**

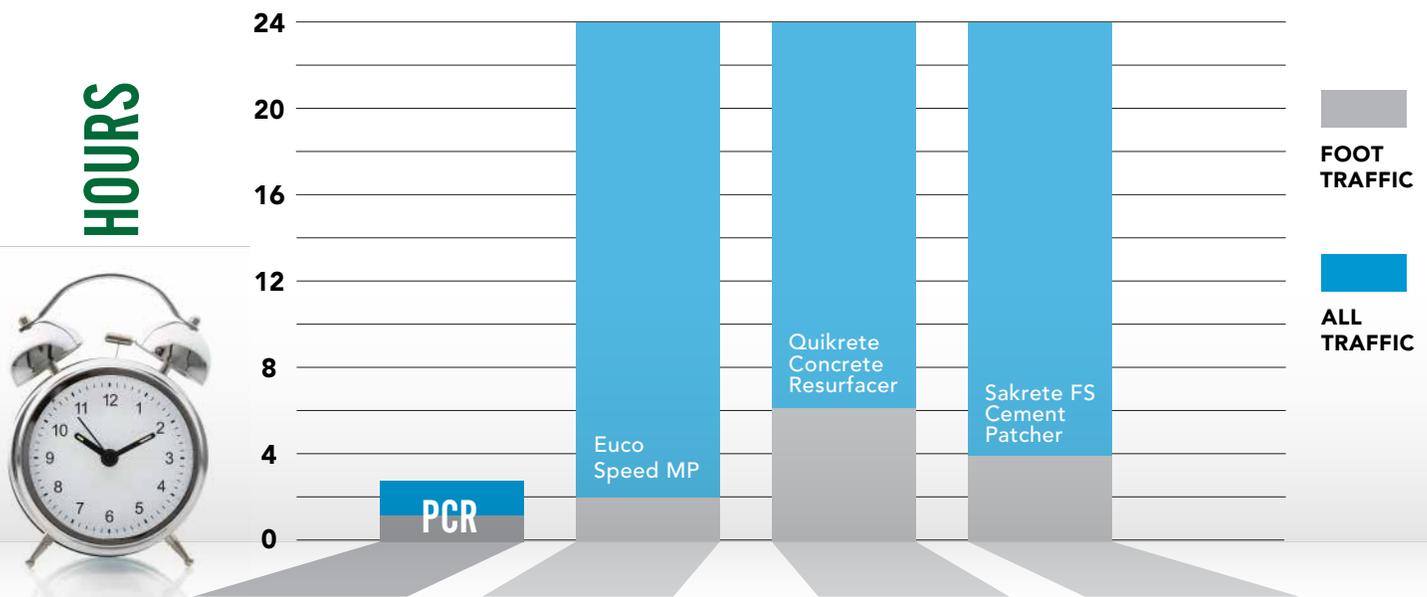


FEATURES & BENEFITS

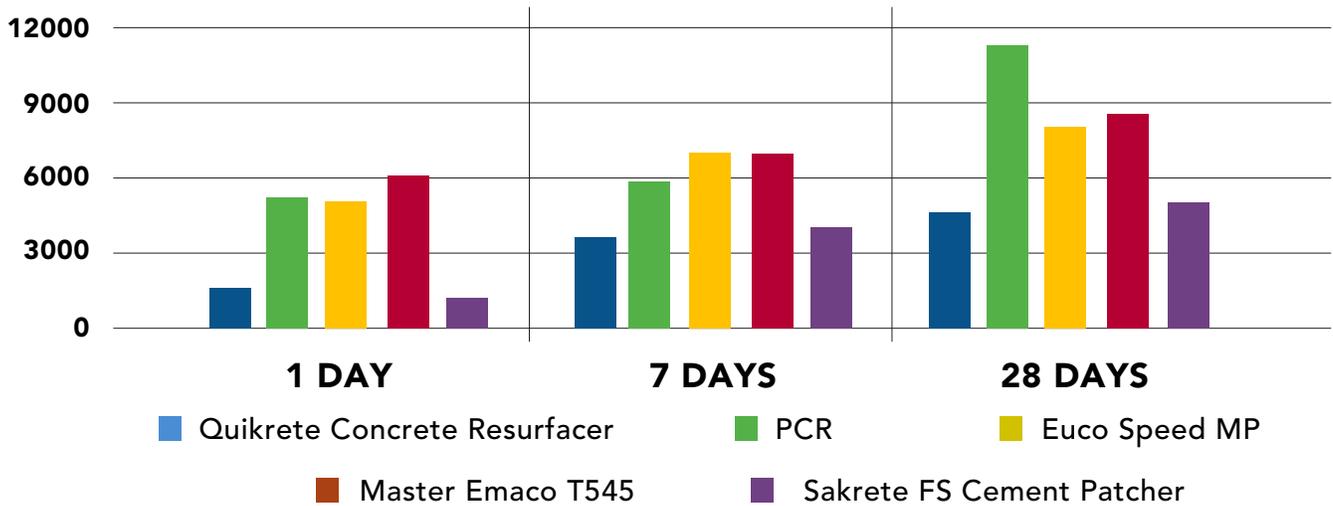
PERMANENT CONCRETE REPAIR! • FAST SET TIME, OPEN TO FOOT TRAFFIC IN 1 HOUR - OPEN TO ANY TRAFFIC IN 2 HOURS • BONDS TENACIOUSLY TO CONCRETE, WILL NOT SPALL OR FLAKE OFF • INCREDIBLE STRENGTH, 10,000 + PSI AT FULL CURE • FREEZE THAW STABILITY, RESISTANT TO CHLORIDE (SALTS) • HIGH IMPERMEABLY - RESISTS OILS, GASOLINE & OTHER POTENTIAL CONTAMINANTS • VERSATILE APPLICATION - CAN BE STAMPED, BROOMED, TROWEL FINISHED • NO POST TREATMENT SEALER REQUIRED, SAVES TIME AND PRODUCT • HIGH IMPACT RESISTANCE - ELIMINATING SEPARATION FROM CONCRETE • NO-CRITICAL MIX RATIO, SIMPLE TO APPLY • SELF BONDING, ELIMINATES NEED OF PRIMERS • EXCELLENT WORKABILITY, HORIZONTAL-VERTICAL-OVERHEAD APPLICATION • SELF-LEVELER & SLOPING ABILITY, INCREASE QUALITY OF REPAIR AND OVERLAYMENT OPTIONS • WATERPROOFING, BETTER THAN ORIGINAL CONCRETE

TIME TO TRAFFIC

Open to all traffic in 2 hours. Fast and simple surface preparation.

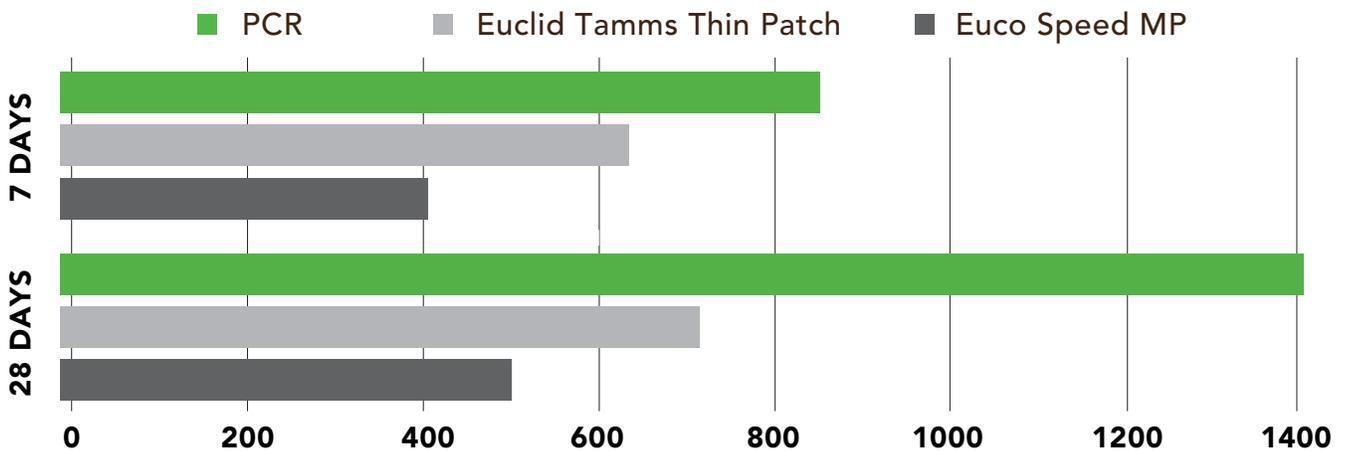


COMPRESSIVE STRENGTH



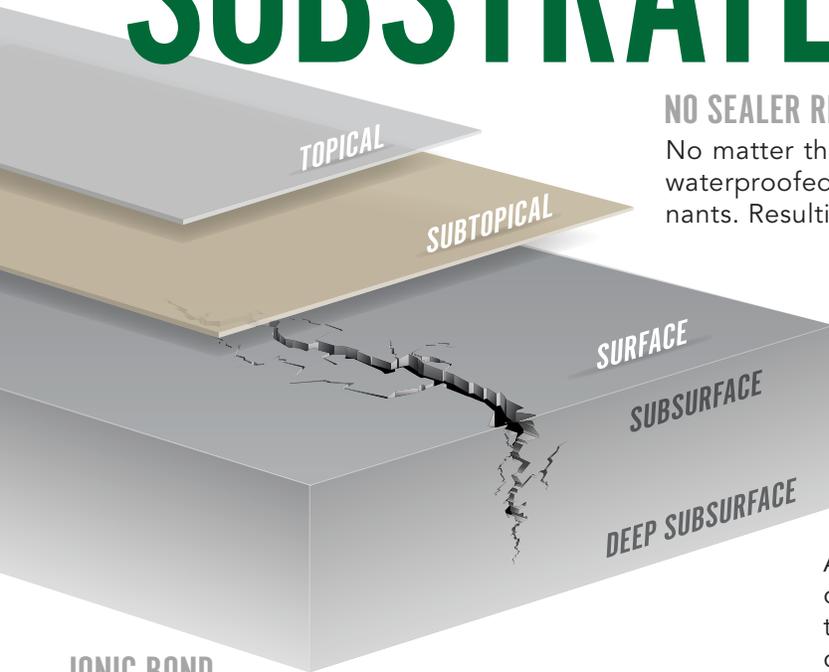
TENACIOUS BOND

FLEXURAL STRENGTH



GREEN UMBRELLA™

SUBSTRATE INDEX



NO SEALER REQUIRED

No matter the finish selected, no sealer is required, leaving the repair waterproofed, resistant to chloride, oil, and other potential contaminants. Resulting in less downtime, additional costs, and product.

STRENGTH

Within 24 hours achieves strength of 6,000 PSI. This strength enables your repair to become permanent. The unparalleled tenacious bond is ionic, with a cure strength that is 10,000+ PSI. PCR is the most durable concrete repair material on the market.

SALT/WATERPROOF

A PCR repair leaves the surface waterproofed and impervious to chloride intrusion. PCR protects against failures due to salt intrusion and spalling due to water entering the concrete and forcing the surface to peel, pop out, or flake. PCR contains no water and has no resulting capillaries; consequently, it has no freeze-thaw issues, unlike conventional Portland-based products. Salt and chloride intrusion is destructive to standard concrete repairs, causing them to lose bond. There is no permeability or capillaries to allow intrusion into the repair.

IONIC BOND

PCR is a two-component ionic bonded material; Part 1 powder & Part 2 activator liquid. When the two components are mixed together, an exothermic reaction occurs forming a solid monolithic cohesive structure. The extreme strength, bond, and impermeability of PCR are created through this chemical reaction, unique to the concrete repair industry.

NO SHRINK

Shrink Resistance is critical to the long term success of bond. PCR has a laboratory proven shrink rate of -0.027%; the bond strength of PCR is 30% better than its competitors. Shrinkage is one cause of delamination, and this is the root cause of many repair failures. The strength of the bond combined with the shrink resistance is the backbone of PCR's formulation.

NO CRITICAL MIX-RATIO

PCR does not have a critical mix ratio versus the necessary critical mixes of conventional Portland products; this makes installation simpler by allowing for a thicker or thinner mix customizable for field conditions and diverse applications. PCR is designed to be troweled, stamped or broom finished the same as finishing conventional concrete.



EASY TO APPLY - SIMPLE TO MAINTAIN

PCR is the only product of its kind for concrete repair. Limited only by moisture - every install must be done dry; apply to any concrete surfaces without using special tools or equipment. PCR is designed to be troweled, stamped, or broom finished similar to conventional concrete. The unparalleled tenacious bond is ionic, making PCR the most durable concrete repair material on the market. PCR is a permanent repair that will not fade, flake, or fail, which means no periodic removal & replacement of the material. There is no need for a unique, additional, or separate maintenance schedule. Clean and maintain the same as conventional concrete using appropriate cleaners recommended by Green Umbrella.

CONSULTANTS

INITIATIVE INSIGHT SPECIFICATION



"Green Umbrella starts by our **CONSULTANTS** showing initiative. Design professionals, owners, and contractors need someone who is willing to take the initiative in connecting you with the solutions for sustainable concrete. We freely share industrial insight by investing in our industry with Continuing Education Presentations created for design professionals, general contractors, and craftsmen. We can assist you in understanding past project failures, helping you build your specifications for future success. With all the products needed on a project, it is essential to have someone "Giving the Direction you Need."

VERSATILE REPAIR

PCR requires no sealer, can be tinted to match existing concrete, and has finish depth flexibility from feather to feet. Additionally, unlimited in location and finish. PCR installs quickly to horizontal, vertical, or overhead. The repair calls for steel troweled, broom finished, or stamped decor - PCR can be finished in a variety of ways. The repair requires vertical, overhead, or standard horizontal restoration - PCR is the product to restore concrete surfaces in a facility permanently.



The simple application process reduces laborers required to install and downtime before traffic can be restored.

ENVIRONMENTALLY RESPONSIBLE PRODUCT



Repairing concrete with PCR instead of replacing damaged concrete eliminates costly demolition and disposal. Choosing PCR to rejuvenate existing concrete reduces the carbon footprint in three ways: by decreasing the need for production of new concrete, by decreasing the need for production of additional building products, and by decreasing the addition of hazardous landfill waste. Compared to replacing damaged concrete, repairing existing concrete with PCR requires substantially less labor, which reduces the need for travel and energy resources.

Permanently repair your concrete without demolition and addition to landfill. Green Umbrella® PCR® has zero VOC's and will not harm the environment.



STANDARDS & TESTING

ASTM C1583/C1583M-20 Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension (Pull-off Method)

AASHTO T259 Standard Test Method of Test for Resistance of Concrete to Chloride Ion Penetration (Salt Ponding Test)

ASTM C1202 Standard Test Method for Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration

ASTM C1556 Standard Test Method for Determining the Apparent Chloride Diffusion Coefficient of Cementitious Mixtures by Bulk Diffusion

ASTM C1152 Standard Test Method for Acid-Soluble Chloride in Mortar and Concrete



***“YOU CAN’T STOP THE RAIN,
BUT YOU CAN STAY UNDER
A GOOD UMBRELLA.”***

ARCHITECTURAL CONCRETE

SYSTEM SOLUTION

UNDER ONE GREEN UMBRELLA

“Our **MISSION** at Green Umbrella is to bring to the concrete market innovative products combined with a consultative approach that resolves common problems; prevent future issues, and create solutions for architectural concrete. We accomplish all of this with an environmentally conscious systems solution, consistently found under one Green Umbrella.”

