



Industrial Strength

PROS-CRETE

“The Ultimate Concrete Repair Material”

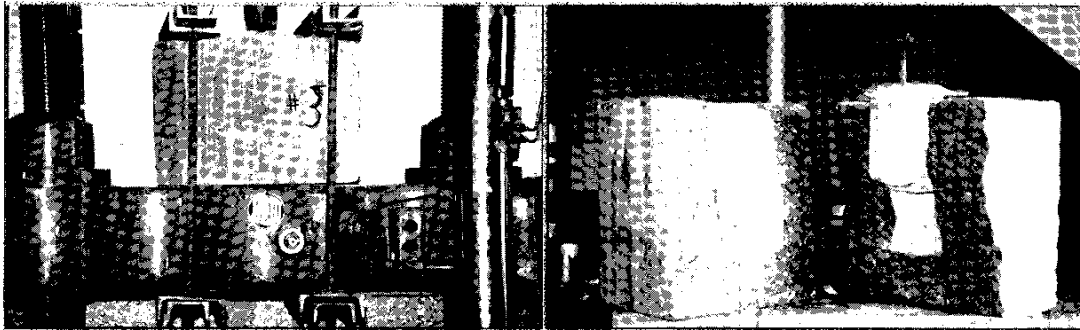




PHOSCRETE Bonds Permanently to Concrete

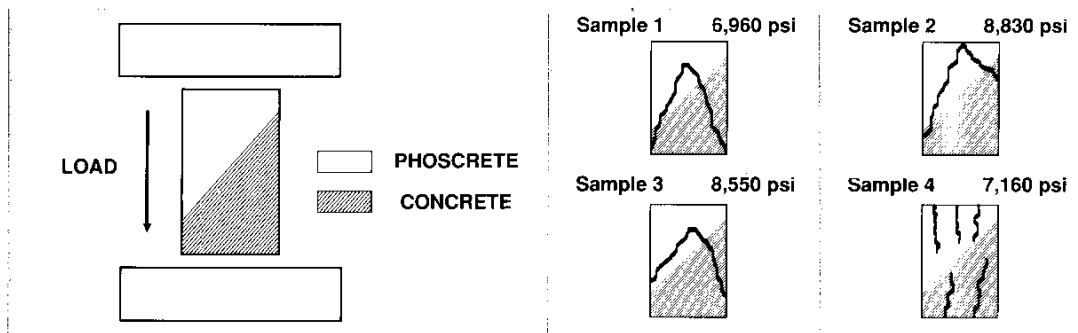


Most concrete repair materials form a mechanical bond to existing concrete. As they reach final cure, they shrink slightly and weaken their bond. Once exposed to physical abuse, the bond is then easily broken, and the material pops off the surface of the concrete. **PHOSCRETE®** chemically bonds to existing concrete, and actually expands slightly as it sets creating a *permanent* repair, even when exposed to extreme physical abuse.



Bolt Pull-Out Test

One test used to determine the effective bond of a repair material to concrete is the Bolt Pull-Out Test. A core hole is drilled into the top of a block of concrete and then filled with a concrete repair material. A steel bolt is then set deep into the concrete repair material prior to its set. The test is to see how much force is required to pull on the bolt before the repair material comes off of the concrete. A material is considered successful if a stress of at least 15,000 psi is placed on the bolt before the material separates from the concrete. This test was performed on **PHOSCRETE®** in June 1989. After the stress on the bolt reached **72,650 psi**, the concrete block actually broke in half, leaving the **PHOSCRETE®** still bonded to the concrete block! The test was then repeated and the same results occurred.



Arizona Slant Shear Bond Test

Another industry-standard test used to evaluate the bonding characteristics of a repair material to concrete is the Arizona Slant Shear Bond Test. A fully cured concrete cylinder is cut into two pieces midway at a 45 degree angle. One half is then removed and replaced with a concrete repair material. Once fully cured, this cylinder is then exposed to compression from the top to determine how much force is required before the cylinder will break apart on the bond line. This test was performed on four samples with **PHOSCRETE®** in August 1985. The average compressive strength required to break the cylinder was **7,875 psi**. Since plain concrete only reaches an ultimate strength of 4,000 psi, this test shows that a **PHOSCRETE®** repair will maintain its bond as long as the concrete is solid.



PHOSCRETE Actually *Inhibits* Rusting



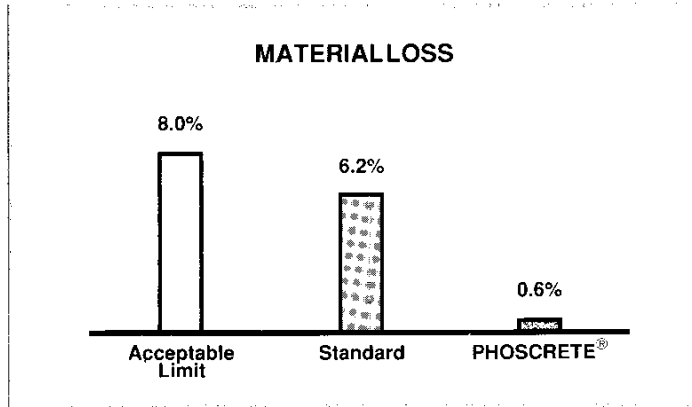
Another tremendous advantage of **PHOSCRETE®** is its unique ability to protect imbedded steel from corrosion. When steel corrodes, it creates pressure which will cause the overlying concrete to crack. This creates a "domino effect" in which the imbedded steel is further exposed to air and water, thus increasing its corrosion. In addition, when the concrete cracks, the water that enters may freeze and even further crack the concrete. **PHOSCRETE®** actually inhibits rusting of reinforcing steel when used to repair deteriorated concrete where re-rod is exposed.



PHOSCRETE Resists Freeze-Thaw Cycling



Other concrete repair materials are porous (usually with at least 10% porosity). Therefore, when exposed to freeze-thaw cycling, water enters the material, freezes, and causes the material to fail, both internally and on the bond line between it and the existing concrete. **PHOSCRETE®** has less than 3% porosity, so even when exposed to drastic temperature changes and freeze-thaw cycling, the **PHOSCRETE®** repair will last.



State of Pennsylvania Test Method #633 "Measuring the resistance of . . . mortar to slow freezing and thawing in brine"

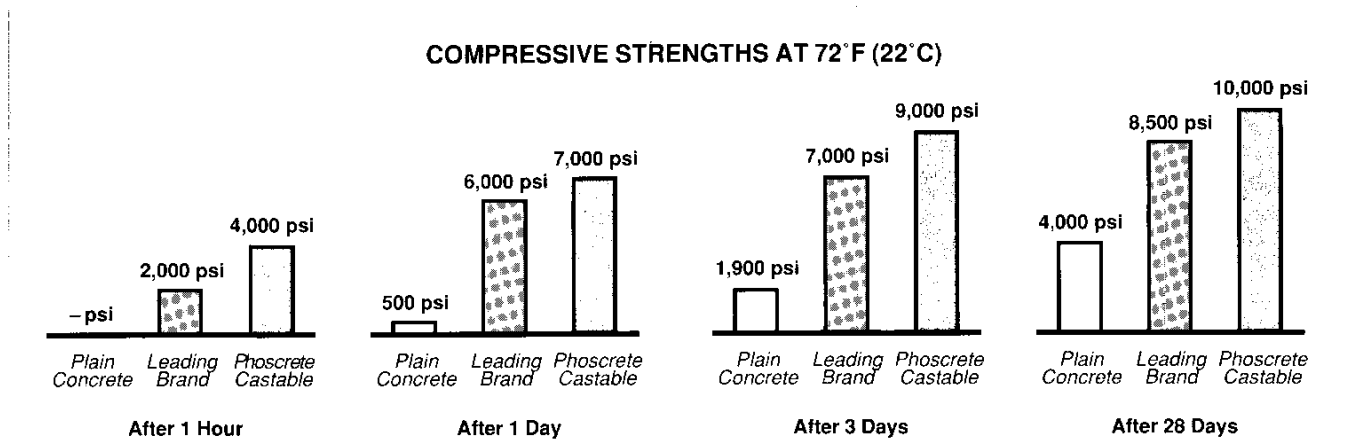
The State of Pennsylvania Department of Transportation requires for state approval what is widely regarded as the toughest freeze-thaw test for concrete materials in the U.S. For this reason, **PHOSCRETE®** was subjected to this test in April 1988. Specimens of concrete are immersed in a brine of 10% by weight calcium chloride in water and then subjected alternately to freezing and thawing conditions. To be acceptable, the product being evaluated must have an average loss of 8% or less after 25 cycles. Pennsylvania's standard approved product showed a loss of 6.2%. **PHOSCRETE®** showed a loss of only 0.6%.



PHOSCRETE is Stronger - Early and Ultimately



PHOSCRETE® achieves substantially higher early strengths and substantially higher ultimate strengths than other concrete repair materials on the market. These higher early strengths allow **PHOSCRETE®** to be exposed to traffic sooner. Typically, **PHOSCRETE®** may be exposed to rubber tire traffic after only thirty minutes. **PHOSCRETE's®** higher ultimate strengths make it the clear choice for long-term repairs.



The PHOSCRETE Varieties



PHOSCRETE® comes in five different mixes to meet a wide variety of needs. **PHOSCRETE® Castable**, for standard concrete repairs, **PHOSCRETE® Gunnable** for vertical and overhead surfaces, **PHOSCRETE® Extendable** for applications which require the material to be extended with sand, **PHOSCRETE® Hot Floor** for industrial floors which are subjected to spills and splashes up to 2000°F (1093°C), and **PHOSCRETE® Winter** for a faster set in colder temperatures.



PHOSCRETE REALLY WORKS



PHOSCRETE® Concrete is a super-strong, super fast-setting concrete material developed from a patented new Space-Age binder system.

Unlike any other cementitious material on the market, **PHOSCRETE**® forms an epoxy-type bond to concrete creating a permanent repair normally possible only with far more expensive and exotic materials.

Before **PHOSCRETE**® it was often necessary to completely replace, or continually patch deteriorated concrete structures. **PHOSCRETE**'s® new technology now makes it possible to permanently repair roads, curbs, driveways, patios, porches, floors, and other concrete surfaces. These repairs will last as long as the original structure.

PHOSCRETE® requires no water to set. For industrial use, **PHOSCRETE**® is supplied as a dry mix with a unique "liquid activator." For retail use, **PHOSCRETE**® is supplied as a slurry along with a "powder activator." Simply add the activator to **PHOSCRETE**® and minutes later, it sets hard.

PHOSCRETE® has many advantages over ordinary concretes and concrete repair materials:

Bonds Permanently To Existing Concrete

Inhibits Rusting Of Reinforcing Steel

Resists Freeze-Thaw Cycling

High Early and Ultimate Strengths

Applicable Below Freezing Temperatures

Fast Setting

Bonds Permanently To Itself

Bonds Permanently To Metals

Looks Like Concrete

Easy To Use



Space-Age Materials

Stellar Materials Incorporated

100 East Linton Blvd

Tower B . Suite 500

Delray, FL 33483

561-330-9300

561-330-9355 Fax