Technology Overview

- Broad application for multiple industries
- Technology development undertaken in 1995
- 1st Rapid Repair “Proof of Concept” completed in the Fall of 1999

Product Description

Pavemend...

- Nontraditional cementitious material
- Chemically bonded composite
- Uses industrial by-products as “aggregate”
- Flexibility of use
- Non-hazardous

Product Performance Characteristics

- Zero shrinkage
- Freeze-thaw durability
- Slight expansion
- Sustained bond integrity
- 6000 psi at 28 days
- Weather/Temperature tolerant

Current Product Offerings

- AnchorQuik™ 5lb buckets
- PaveMend 5.0™, 45lb buckets, 45lb bags
- PaveMend 15.0™, 45lb buckets, 45lb bags
- PaveMend 30.0™, 45lb buckets, 45lb bags
- VertiMend™ 15lb buckets

Applications

- Rapid Repair
  - airport infrastructure
  - roads and bridges
  - marine
  - rail
- Coatings
  - paint
  - overlays
- Adhesive Concrete
  - grout
  - anchor materials
- Precast
- Ready-mix
Product Benefits

- High early strengths
- Bonds to multiple materials
- Low modulus of elasticity (MOE)
- Very Low Coefficient of Thermal Expansion
- Non-Toxic
- Ease of use

Primary Applications

**Structural surface repair: cracks, spalls, impact damage and other surface defects**

**Horizontal Surfaces**
- Bridge Decks
- Parking Garages
- Parking Lots/Curing
- Floors
- Sidewalks
- Joint Repair

**Vertical Surfaces**
- Bridge Decks (overhead)
- Parking Garages (ceilings)
- Floors (slips)
- Walls
- Columns
- Joint Repair

Installation Procedures

**Surface Preparation**
- Users should follow ACI recommended practices to attain structurally sound conditions in preparation for repair, i.e:
  - Generally sound mechanical surfaces that are clean and free of debris/residues;
  - Generally dry surfaces with no standing water;
  - Reinforcing steel should have no loose scale;
  - No bond coat is required
- Remove previously failed materials or repairs
- Protect during curing from impact and/or loads until desired strength or performance is achieved

**Tools and Materials Required for Mixing**
- Thermal gun
- Drill capable of 300 rpms minimum
  - Torque sufficient to mix dry materials into solution
- Mixing paddle
  - Quad blade type for PaveMend materials
  - Grout mixer blade type for VertiMend and AnchorQuik
- Water container (5 gallon bucket or similar)
- Water measuring container (1 gallon)
- Typical concrete finishing tools (trowel, broom, etc.)
- Saw cutting equipment (replacement of joints)
- Joint sealant material

Installation Procedures

**State Departments of Transportation**
- South Carolina – 12/02
- Florida – 01/03
- Rhode Island – 04/03
- Illinois – 05/03
- Connecticut – 05/03
- Virginina – 05/03
- Wyoming – 06/03
- Montana – 06/03
- Colorado – 08/03
- North Dakota – 08/03
- Hawaii – 09/03
- Utah – 10/03
- Ohio – 11/03
- Pennsylvania – 11/03
- New York – 12/03
- Louisiana – 01/04
- Arizona – 02/04
- Texas – 04/04
- Georgia – 06/04
- North Carolina – 06/04
- Nevada – 07/04

**Repair Pitfalls**
- Structurally damaged systems or design failures where the cause and repair solutions have NOT been determined
- Unsound existing repair materials or components
- Poorly prepared or contaminated surfaces such as grease, heavy oils, and petroleum-saturated surfaces
- Polymer based materials such as acrylic, latex coatings or paints, and silicone or rubber

**Notes**
- Generally sound mechanical surfaces that are clean and free of debris/residues;
- Generally dry surfaces with no standing water;
- Reinforcing steel should have no loose scale;
- No bond coat is required
- Remove previously failed materials or repairs
- Protect during curing from impact and/or loads until desired strength or performance is achieved
Installation & Handling Procedures

Working with Aggregate
- PaveMend™ does not require the use of aggregate extenders
- Generally, other products require aggregate extenders due to excessive heat generation when those materials are used to depths of 1-2 inches or more
- PaveMend™ can be poured onto an aggregate bed. It will penetrate 1-2 inches before solidifying

Installation & Handling Procedures

Working with Rebar
- All PaveMend™ products exhibit exceptional bond strengths to steel
- This use extends to reinforcing bars (clean or oxidized)
- The bond with steel typically exceeds the modulus and design strength limits of the rebar

Installation & Handling Procedures

Post-Application Steps to Ensure Integrity of Repair
- All pavement/structural design conditions should be maintained or reestablished, to include control joints, sub grade stability, etc.

Current Product Offerings
- AnchorQuik™ 5lb buckets
- PaveMend 15.0™ 45lb buckets, 45lb bags
- PaveMend 30.0™ 45lb buckets, 45lb bags
- PaveMend 60.0™ 45lb buckets, 45lb bags
- VertiMend™ 15lb buckets, 45lb bags
- PaveMend TR™ 45lb buckets, 45lb bags