D.S. BROWN®
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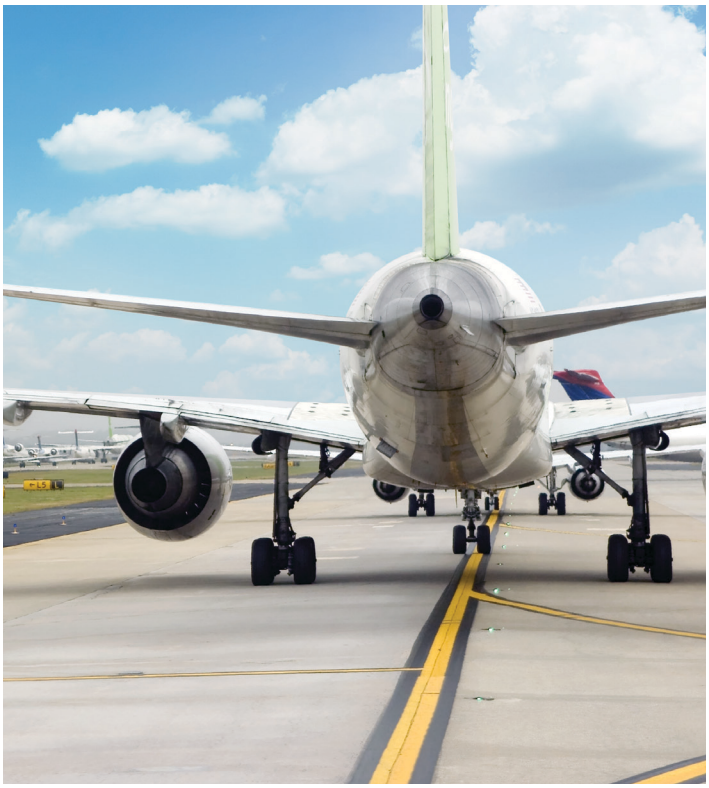
Delpatch™ Elastomeric Concrete

Pavements



Bridge the World with Leading Infrastructure Solutions

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Delpatch™ runway spall repair, Albuquerque International Sunport, New Mexico

Delpatch™ lighting application, Salt Lake City International Airport, Utah

Delpatch™ Elastomeric Concrete

In 1983, The D.S. Brown Company introduced Delcrete™ Elastomeric Concrete on I-10 in Louisiana as a bridge expansion joint assembly structural anchoring and nosing material. The rigid, yet flexible connection Delcrete™ provided between steel and concrete soon made it the premier solution for bridge and highway spall repair. Yet the need still existed for a permanent repair solution for high performance pavements which would offer minimal downtime and, at the same time, limit exposure of work crews to traffic. D.S. Brown engineers accepted the challenge and formulated Delpatch™ Elastomeric Concrete from the original Delcrete™ product. Delpatch™ Elastomeric Concrete, a new generation of elastomeric concrete, has two main uses. First, it is an excellent patching material for cracks and spalls on airport runways and highways. Second, Delpatch™ Elastomeric Concrete provides an easy to use solution in retrofitting airport runways with lighting.

Delpatch™ Elastomeric Concrete Advantages

1. **High-load bearing capacity –** Handles the weight of C-4s, 747s, and heavy truck traffic.
2. **Outstanding anti-spalling properties –** Delpatch™ is a long-term solution for high-performance pavement repairs.
3. **Excellent adhesion to concrete and steel –** Laboratory tests show Delpatch™ withstands over 400 psi with concrete and 500 psi with steel.
4. **Impact resistant –** Under bitterly cold conditions Delpatch™ withstands heavy impact, unlike epoxy and concrete-based materials that shatter.
5. **High compressive strength –** Delpatch™ can handle heavy psi pressure before deflecting, and its memory allows it to return to its near original state after deflection.
6. **Chemical resistant –** Delpatch™ resists commonly used chemicals such as ASTM Oil #1, ASTM Fuel A, Ethylene Glycol, Freon, Isopropyl Alcohol, JP-4 JetFuel, Silicone Grease, Sodium Chloride, Mineral Oil, Trisodium Phosphate, and Potassium Acetate.
7. **Easy to install –** Delpatch™ is self-leveling and has a rapid cure time. This minimizes expensive downtime and allows for the return of traffic often within an hour of final pour. It also protects work crews by minimizing their exposure to heavy traffic.
8. **Flexibility –** Cement, Phosphate, Epoxy and most other high early strength repair materials prematurely fail because they are rigid. Rigid repair materials installed in rigid pavement require that the materials have similar coefficient of expansion. Most do not and, as a result, destroy the patch and the surrounding concrete. Delpatch™ utilizes a unique urethane chemistry to provide a flexible patch that will deflect as surrounding concrete expands and contracts, rather than destroy it.

Delpatch™ Elastomeric Concrete Applications

Concrete Spall Repair

Spall and crack repair, Highway 6, Houston, Texas

Many transportation engineers across the country have used Delpatch™ Elastomeric Concrete as a permanent solution for the repair of cracks and spalls in airport runways and highways. These professionals have discovered that Delpatch™ Elastomeric Concrete allows airport runway and highway projects to be back in use in as little as one hour after the final pour. In addition, its ability to withstand a variety of commonly-used chemicals as well as extreme temperature changes make Delpatch™ Elastomeric Concrete the preferred solution for pavement repair.

Airfield Lighting

Milwaukee General Mitchell International Airport, Wisconsin

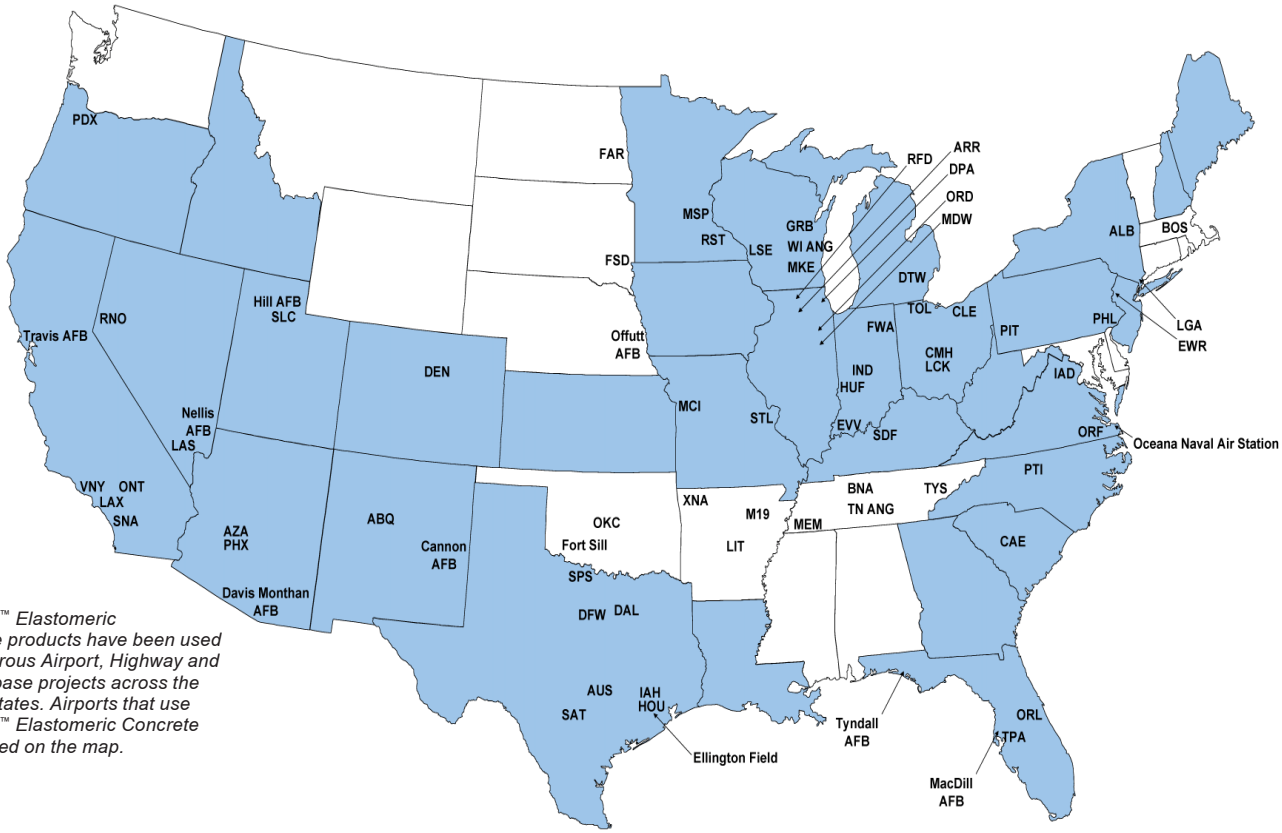
Delpatch™ Elastomeric Concrete has been successfully used to retrofit airport runways and taxiways with lights. Its great uniform flow characteristics allow Delpatch™ Elastomeric Concrete to flow beneath and over the conduit, offering support to the conduit from below and protection on top.

Delpatch™ Elastomeric Concrete typically hardens within one hour of final pour, thereby allowing expensive downtime on the runway to be limited. To date, over 100,000 feet of trench has been successfully backfilled with Delpatch™ Elastomeric Concrete products.

Washington Dulles International Airport, Virginia

U.S. Highway and Airport Projects

States using Delpatch™ Elastomeric Concrete



Delpatch™ Elastomeric Concrete products have been used on numerous Airport, Highway and Military base projects across the United States. Airports that use Delpatch™ Elastomeric Concrete are labeled on the map.

Delpatch™ Elastomeric Concrete Installation

Delpatch™ Elastomeric Concrete can be easily installed using these simple steps:

1. Area preparation
Saw cut, chip or mill area to be repaired, leaving only sound concrete. Carefully sandblast all areas which will be in contact with Delpatch™ Elastomeric Concrete. Repair area must be clean and dry before pouring Delpatch™ Elastomeric Concrete.

2. Priming
Use a pump sprayer or brush to apply The D.S. Brown Company's proprietary primer to all areas that come in contact with Delpatch™ Elastomeric Concrete. Primer must dry a minimum of 30 minutes and no longer than 4 hours before pouring Delpatch™ Elastomeric Concrete.

3. Mixing
Mix 3,000 ml of Part A and 1,500 ml of Part B for approximately 10 seconds. Add pre-weighed 22 lb. bag of sand and fiberglass and continue to mix for 1 minute. When properly mixed, Delpatch™ Elastomeric Concrete is an even gray color.

4. Pouring
Fill entire area to grade as you work down the repair area. Delpatch™ Elastomeric Concrete is self-leveling. If needed, trowel material in place. As it cures, use a trowel to achieve a grooved or textured finish. For repairs along existing joints, the joints should be maintained by the use of forming materials or saw cutting method.

Delpatch™ Elastomeric Concrete can accept traffic in as little as one hour after the final pour when installed in normal working temperatures. **Note:** Do not install Delpatch™ Elastomeric Concrete when any moisture is present or when pavement temperatures are below 45°F (8°C).
Please refer to D.S. Brown's Delpatch™ Elastomeric Concrete Installation Instructions prior to installation.

Delpatch™ Elastomeric Concrete Packaging

- *Delpatch™ Elastomeric Concrete is sold by the unit.*
- *Each unit consists of two 5 gallon containers of Part A, one 5 gallon container of Part B, 12 - 22# pre-weighed bags of sand and fiberglass, and primer.*

- *Each unit yields approximately 27.7 mixed gallons (104.845 liters) and fills a void of approximately 3.7 cubic feet (.1047 cubic meters).*

Delpatch™ Elastomeric Concrete Properties

Delpatch™ Elastomeric Concrete Physical and Performance Properties		
Properties	**Requirements**	**ASTM Method**
Tensile strength, min, psi (MPa)	600 psi	D 412 (mod)
Elongation at break, min %	25	D 412 (mod)
Hardness, Type D durometer, points	50 min	D 2240
Compression-deflection properties Stress psi, 5% deflection Resilience, 5% deflection	 800 min/1400 max 95 min	 D695 D 695 (mod)
Impact, Ball Drop @ -20 F, no cracking	>10 ft	D 3029 (mod)
Adhesion to Concrete (psi) Dry Bond Wet Bond	 400 min 250 min	