

ADVANCED WAY TO REINFORCE CONCRETE

As our nation's infrastructure ages, we are facing an escalating need for ways to cost effectively replace and/or repair existing roads, bridges, tunnels and other public structures and the current options provide only the most basic short-term remedy to the problem. Advanced building materials that are less expensive to in-stall, stronger, and longer lasting are clearly needed to address this problem.

We are constantly reminded of the dangers facing all Americans in their homes, workplaces and public venues brought on by terrorism. Although there are methods of protecting buildings and other public places from bomb blasts they are expensive and they negatively affect the function and architectural aesthetics of the structures.

Polytorx's Helix technology is a revolutionary solution. Helix is the most advanced way to reinforce concrete ever developed. Helix addresses concrete's fatal weakness, the fact that easily cracks and break apart in time. Over 50,000 helix shaped reinforcing elements per square foot of concrete fortify the concrete in all directions adding strength throughout and stopping cracks before they grow and spread.

Helix has industry wide implications. Homeowners, businesses and municipalities will benefit from lower cost longer lasting sidewalks and roads. Helix limits cracking to barely visible hairline size. For those looking for a flexible, virtually indestructible building material for earthquake and blast resistant structures, Helix is the only choice. Helix reinforced concrete is capable of absorbing over 5 times more energy absorbed than the best available technology on the market today. Added at the batch plant, the material is invisible to the end user and is easy for concrete professionals to implement. Finally because Helix adds considerable strength directly to the concrete, less concrete and less, if any, steel reinforcement is needed. Helix actually costs less!

Professor Antoine Naaman developed the technology at the University of Michigan. Luke Pinkerton, a former student developed the manufacturing process and launched Polytorx. Helix has undergone extensive testing at the University of Michigan world class Structural Engineering Laboratory, including full-scale bridge girders and seismically resistant walls. Polytorx's first commercial projects are already set to begin in fall 2003.

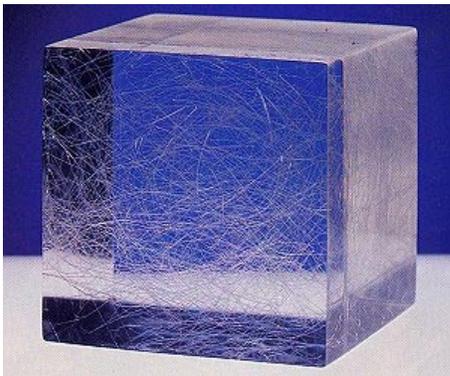
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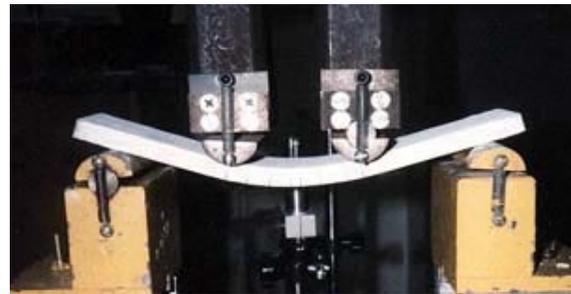
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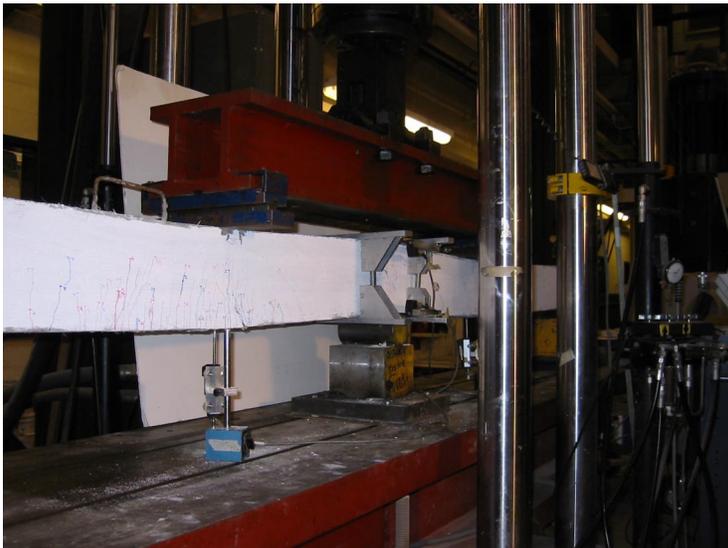
HELIX FIBER



RANDOM MATRIX



FLEXIBILITY



LARGE SCALE TESTING