

# From worn tires, small firm creates lifesaving shields

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Derek Gee/Buffalo News

ReTread Products President Shane T. Hansen, conducting a test in North Tonawanda, measures to check for movement in a retaining wall built with "tire logs" made by his company.

## ARTICLE:

A small Southern Tier company has developed a super rubber product out of waste tires that engineers say could revolutionize flood control, earthquake survivability and homeland security.

"This is a quantum leap in the application of waste tire material," said Mark W. Glynn, consulting engineer and principal of Geotechnical Engineering of Lockport. ReTread Products of Great Valley in Cattaraugus County has tested the toughness of the product at the An-Cor Industrial Plastics plant in North Tonawanda and now plans to meet with earthquake experts and homeland security officials, said Shane T. Hansen, ReTread's president.

"Barricades are big news these days," Hansen said, "whether it's keeping back another Hurricane Katrina or barricading Baghdad."

The company removes the sidewalls from used tires, winds the steel-belted treads into 16-foot-long "tire logs" - resembling carpet rolls - and binds them together with bolts and rivets. Each tire log contains the treads from about 80 tires. The end product will bend but not break, Hansen said.

The rubber makes it totally flexible, he said, and the steel threads in the treads make it tough.

A 16-foot tire log can withstand 200 tons of weight without breaking and will only bend under 1,000 pounds of pressure, Hansen said.

He built the prototype out of bicycle tires in his basement.

"He's like the old-time inventor, starting out in basements of small-town America and revolutionizing the way things are done," Glynn said. "This is even more significant in that they've taken a negative situation like waste tires and turned it into a positive." The test tire logs were assembled individually, but the company is seeking funding to mass produce them.

ReTread Products leased space in An-Cor's facility to test the product but is considering several locations in Western New York to manufacture it on assembly lines.

Empire State Development Corp., the state's economic development agency, was sufficiently impressed to invest \$200,000 in the company. The project also has the backing of Sen. Charles E. Schumer, D-N.Y., who is particularly interested in its application in sea walls and levees to replace sandbags, which proved ineffective during Katrina's devastation of New Orleans.

Unlike sandbags, the rubber would not absorb sewage, chemicals and other toxic materials that are disgorged during a flood.

"Sandbags and their harmful contents have to be discarded after being used in flood control, but tire logs could simply be washed off and reused," Hansen said.

Schumer is setting up meetings between ReTread Products representatives and officials from the U.S. Army Corps of Engineers and the Federal Emergency Management Agency.

"This material will play a vital role in protecting communities nationwide," Schumer said.

ReTread hired Glynn Geotechnical Engineering to verify the strength tests done at An-Cor.

Glynn's terse conclusion: "It works."

For use as a retaining wall or levee, the bolted tire logs can be covered with a wood frame and, in the case of an earthquake-resistant house, further covered with vinyl siding.

"The tire log mass can be sculpted to make it aesthetically pleasing," Glynn said. "You could build a house out of this. In an earthquake, a tire log house would shake, but it wouldn't collapse."

Added Hansen: "If this product does what we think it can do, the possibilities are unbelievable."

Besides the practical applications, tire logs are an environmental solution to the massive waste tire problem, Hansen said.

U.S. consumers discard 290 million tires each year, according to the Environmental Protection Agency. Latest figures estimate that 80 percent, or 232 million tires, were being recycled or used as fuel and 17 million retreaded.

That leaves 41 million scrap tires a year piling atop the existing 300 million in landfills nationwide. Many of those are burned, causing noxious air pollution and gallons of runoff oil that contaminates groundwater.

"With all the waste in the world, we need green products," Hansen said. "The tire log is a product for a new generation."

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