

PUBLICATION

Rebuilding America's Infrastructure with Soda Bottles

Authors: Stephen K. Pudner

February 10, 2012

Could recycled soda bottles be the answer to America's aging infrastructure woes? This may seem like a crazy question, but over recent years the use of special composites of recycled plastic as a building material in the U.S. and abroad have increased dramatically, and this may be just the beginning.

In addition to park benches and railroad ties, over the past few years, numerous pedestrian and vehicular bridges have been constructed in the U.S. out of composites made of recycled plastic. Some of these bridges have been built by the U.S. Army and must support the weight of tanks and heavy trucks. In December 2011, the longest recycled plastic bridge built to date (100 feet long) was constructed in a town in Scotland.

From all accounts, these plastic bridges seem to be holding up well over the short term, although the long term may be a different story. [Manufacturers claim](#) that their recycled plastic composites are stronger, more durable, and more environmentally friendly than traditional building components such as concrete, steel, and wood. They also claim that the quality and durability of the plastic composites being used today has improved dramatically since 1996, when an [all-plastic pier in the Bronx melted](#) a year after construction when it was struck by lightning and caught fire.

Although there are obvious risks and unknowns, the idea of using plastic as a building material seems to be gaining acceptance and could have many possible benefits: keeping plastic out of landfills, quick and easy installation of prefabricated building materials, possible long-term cost savings, and possibly a longer lifespan due to less corrosion and decay.

While many likely remain skeptical about whether plastic composites can be a viable replacement for concrete and steel in large-scale infrastructure projects, contractors and owners may want to consider how they might incorporate plastic composites into their building projects.