

# US grant awarded for patented stay-in-place (SIP) composites formwork system made from recycled materials

*The patented technology is for a breakthrough "Contech" building and construction invention that also is sustainable.*

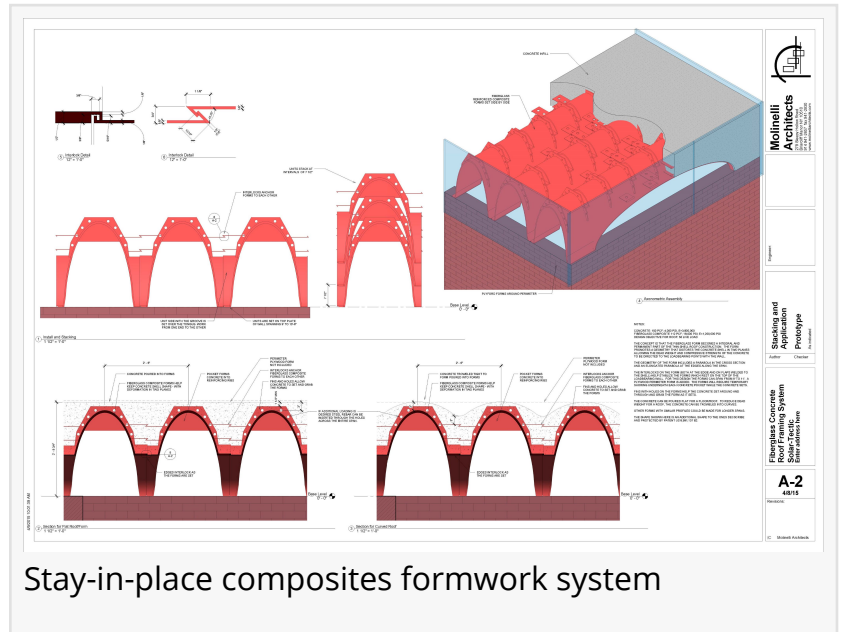
GARRISON, NY, UNITED STATES,  
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EINPresswire.com/ -- Start-up ST Bungalow LLC (Garrison, NY) and Molinelli Architects (Briarcliff Manor, NY), in collaboration with the Sustainable Materials and Manufacturing Alliance for Research Technology (SM2ART), a partnership between Oakridge National Laboratory

and the University of Maine, have been awarded an Industrial Collaboration grant from the US Department of Energy's (DOE) Advanced Materials and Manufacturing Technology Office, for research and development of a patented "[Contech](#)" stay-in-place (SIP) composites formwork system that can be made from recycled materials such as wind turbine blades. Phase 1 of the grant was recently completed and now, based on the outstanding results from phase 1, a computer modeling phase, a phase 2 grant for a larger sum has been awarded for physical prototypes, scaling up, and certification.

The innovative patented "Contech" building construction system is designed for reinforcement of concrete flatwork such as floors and roofs as well as infrastructure such as bridge decking. The non-ferrous (no steel) patent has many advantages over steel rebar and steel decking as well as fiber reinforced polymer (FRP) rebar. These include drastic cost savings due to the stay-in-place formwork feature which reduces time and labor, the cost of steel, labor involved in placing rebar, and use of recycled materials such as recycled wind blade or boating composites which are extremely cheap. The patent allows for concrete to do what it does best -- work in compression.

At a time when the built world is transitioning to the use of sustainable building processes and



Stay-in-place composites formwork system

materials, this new non-ferrous formwork system has an additional appeal to contractors and architects looking to meet increasingly strict standards and solutions. The non-ferrous aspect of the system avoids problems associated with steel rebar such as corrosion and expansion due to increasingly adverse climate conditions such as heat and increased moisture. Wind blade recycling is a bottleneck in the wind industry and this new formwork system provides an end purpose solution that consumes enough FRP blade material to actually drive circularity in the wind industry as well as boating.

ST Bungalow LLC and Molinelli Architects began a joint venture in 2013 and since then have been developing the proprietary "Contech" formwork construction system including the filing of patent applications which have been issued and are pending. The latest patent filing is pending in the US Patent Office: US20240084590A1

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