

NEW PRODUCTS

Researcher Claims Hollow Columns Strengthen Bridges

Thousands of America's aging bridges are in dire need of repair or replacement, according to experts. One solution, says a Missouri researcher, would be to use hollow concrete columns to strengthen bridge supports.

Mohamed ElGawady, an associate professor of civil, architectural and environmental engineering at Missouri University of Science and Technology, says that hollow columns could extend the lifespan of a bridge beyond the current 50-year span. The concrete bridge columns feature a steel tube surrounded by three inches of concrete and covered by a fiberglass-reinforced polymer coating.

The polymer coating on the outside extends the lifespan of the bridge and protects it from corrosion," ElGawady says.

Vehicle impact simulations by Missouri S&T show the hollow columns can withstand the same amount of force as traditional concrete columns with rebar support. ElGawady also conducted earthquake simulation tests to monitor the flexibility of the bridge. The expected average flex in bridges is 4 percent during moderate earthquake conditions; hollow columns withstood a flex of up to 15 percent.

The hollow supports can be completed in a couple of hours because the inner steel pipe and outer polymer pipe act as a stay-in-place framework. The columns' relatively light weight makes them easy to transport. A typical bridge column can take 15-18 hours to create.



Smart Toolbox

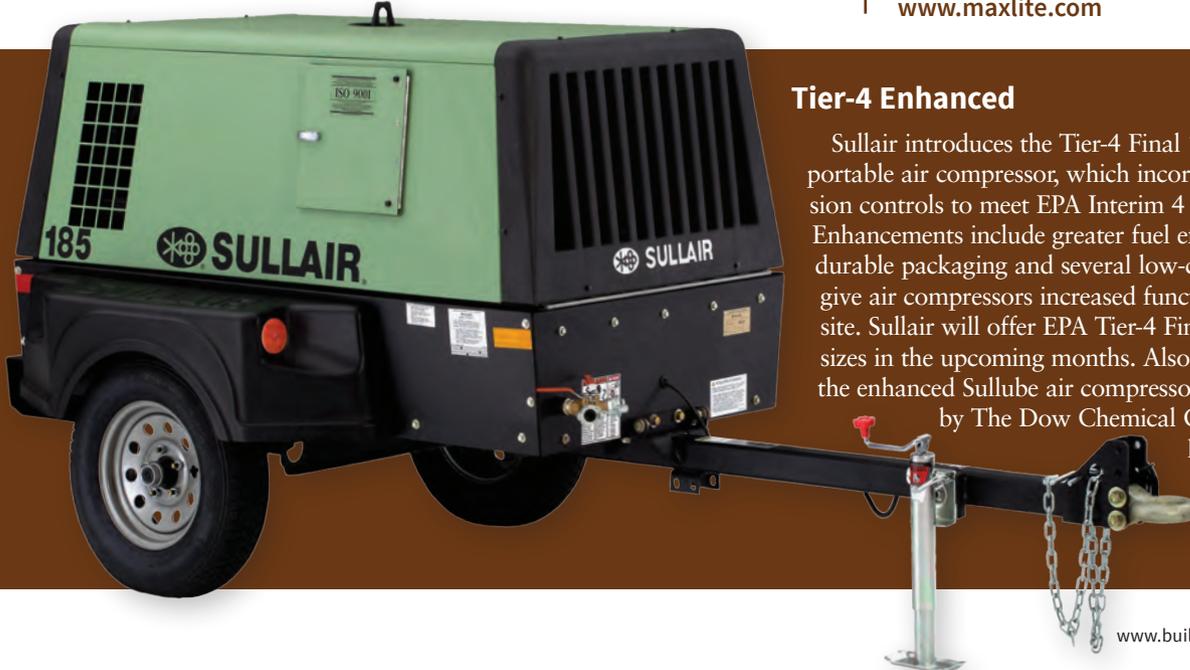
The Coolbox features built-in Bluetooth speakers and a tablet stand and is equipped with a 20v rechargeable battery. Without being plugged in, it can power devices through two USB ports for over 10 hours and can power tools, such as sanders, for more than 40 minutes with its three-way splitter. The Coolbox is available for pre-order on Indiegogo. www.bitly.com/CoolboxIGG



Retrofit Lamps

MaxLite has added to its line of ballast-compatible products with new LED DirectFit PL Lamps. The retrofit lamps are a plug-and-play replacement for compact fluorescent lamps (CFL) in downlights, sconces and other four-pin base fixtures commonly used in commercial buildings. The 13-watt retrofit lamps operate directly off of a fixture's existing ballast. Offered in two designs to suit horizontal or vertical mounting position.

www.maxlite.com



Tier-4 Enhanced

Sullair introduces the Tier-4 Final 185 (185 cfm) portable air compressor, which incorporates new emission controls to meet EPA Interim 4 (iT4) standards. Enhancements include greater fuel efficiency, more durable packaging and several low-cost additions that give air compressors increased functionality at the job site. Sullair will offer EPA Tier-4 Final status to additional sizes in the upcoming months. Also newly launched is the enhanced Sullube air compressor lubricant, produced by The Dow Chemical Co. Sullube is a

high-performance polyglycol-based lubricant.

www.sullair.com