



A COST-EFFECTIVE, FIRE-RESISTANT REVAMP FOR THE ELIZABETH RIVER TUNNELS

Our client, Mass Electric Construction, secured the electrical infrastructure contract for Elizabeth River Crossing, which had taken on a 99-year contract for the Elizabeth River Tunnels. Although tolls on the tunnels were going to be a great source of revenue, recent safety standard changes meant they would need to spend money to make money. The existing steel conduits, raceways and system components were no longer compliant with NFPA502 standards, so Mass Electric needed to replace them with products that were safe, efficient and cost-effective. Champion Fiberglass stepped in with the answer.

Challenge

The legacy combination of galvanized rigid steel conduits and two-hour Fire Resistive Cables was no longer a safe option for use in the tunnel project. The cables weren't the problem - what they needed was an updated conduit solution to house them. One that passed strict UL 2196 Cable Performance testing, which requires both products to continue functioning for the duration of a two-hour fire test and subsequent hose stream. And the new conduit solution had to be cost-effective. Replacing years-old galvanized rigid steel conduit was already a costly challenge. The new solution had to pull its weight, now and for years to come.

Solution

The solution? Go straight to the source. Champion Fiberglass partnered with RSCC, the makers of VITALink® 300 Cable, working closely in order to develop a cost-effective solution that would meet the severe fire requirements of UL 2196. The result was Champion Fiberglass Flame Shield® Phenolic XW conduit. This zero-smoke, zero-halogen solution was tested in conjunction with RSCC cables, passing the UL 2196 Standard for Fire Resistive Cables testing and resulting in two UL-issued VSR (Verification of Services) reports. Champion Fiberglass was the first manufacturer of an RTRC phenolic conduit that meets UL 2196 requirements – and can withstand temperatures of 1850 degrees Fahrenheit for two hours.

Results

Speed » The lightweight, fire-resistant Flame Shield Phenolic XW conduit paired perfectly with the Elizabeth River Tunnels' cable solutions, and quickly replaced the unsafe, non-compliant existing galvanized steel conduit.

Safety » Our clients appreciated that not only did Flame Shield conduit meet their fire-safety requirements; it ensured great performance for years to come

Efficiency » In this project, Champion Fiberglass enabled an efficient, streamlined approach to solving what could have been an enormous safety risk and liability exposure. The tunnels are running smoothly (and safely) to this day. Cha-ching.

QUICK FACTS

PROJECT NAME

Elizabeth River Tunnels

APPLICATION

Tunnel

CHAMPION FIBERGLASS

PRODUCT(S)

Flame Shield® Phenolic XW conduit

- » The first phenolic conduit to meet UL 2196 requirements
- » Can withstand 1850°F for two hours
- » Solved a potential safety risk and liability exposure