

New Breed of FRP Tankers Hitting the Road



The transportation of chemicals is essential to today's infrastructure. Tanker trailers commonly travel the nation's highways delivering hazardous chemicals to a plethora of destinations.

One of the most important decisions that a chemical transportation company will make is determining the material used to construct their tankers. Per ASME code, heavy welded steel tankers are built to withstand dynamic loads. They offer additional protection from severe accident damage, but carry less product due to Department of Transportation weight restrictions. Lighter fiber-reinforced plastic (FRP) tankers can carry more product, although they generally have a shorter lifespan due to the failure of the composite epoxy vinyl ester resin protective lining.

No matter the weight or construction of the tanker, the lining must be thoroughly and consistently inspected to ensure it hasn't been jeopardized. A degraded lining in a chemical tanker trailer can be catastrophic if an unfortunate event occurs while on the road.

We have good news for you. The decision about which type of tanker and lining to select just got easier.

Thanks to advances in material science engineering, FRP tankers can now be lined with rubber. Transportation companies are increasingly relying on the combination of an FRP tanker with a rubber lining. This solution offers the best of both worlds: **decreased tanker weight and twice the lifespan of the composite resin lining.**

Below are some advantages and disadvantages of the two most commonly used materials for tanker trailer construction: FRP and carbon steel.

FRP

- 5,500 gallon units can weigh as little as 9,500 lbs
- Higher load capacity
- Previously had shorter lifespan due to premature composite resin lining failures
- Rubber linings are now applied to FRP tankers which significantly increases the tanker lifespan while keeping it relatively light weight

Carbon Steel

- Often weigh as much as 13,500 lbs.
- Lower load capacity
- Long lifespan due to strength of steel and commonly used rubber lining

Conclusion: An FRP tanker with a rubber lining is the optimum solution.

A chemical transportation company recently contacted [Goodwest Linings & Coatings](#) to see if their 5,000 gallon FRP tankers used to transport bleach could be rubber lined. The answer? "Of course!"

When the tankers arrived at the [Goodwest facility](#), the existing composite resin linings were degraded, flaking off, and in a word: failing. The experienced team at Goodwest knows very well that companies are losing money while their equipment is out of service. So they quickly and effectively removed the failed lining and installed a 1/4" thick pure chlorobutyl rubber lining in each of the tankers.

As any diligent chemical transportation company would, they periodically inspect the rubber linings in their tankers. Adhesion to the FRP substrate has remained good with no blistering and the seams/cap strips are intact. The president of the company has since paid Goodwest the biggest compliment possible: He placed more orders to have his FRP tankers lined with chlorobutyl rubber!

[Contact Goodwest](#) today to see what solutions we can offer for your tanker trailers.

Why Rubber?

Rubber is a fascinating material. OK, so we're a little biased here at Goodwest. We've been [applying rubber linings](#) for more than 50 years. But we still find its flexibility and durability to be second to none. That is why many engineers around the world refuse to deviate from the proven track record and reliability of a rubber lining.

Not just any rubber lining will withstand the service conditions of your equipment. There are several different polymer - natural rubber, chlorobutyl, viton, and neoprene, to name a few - each engineered to offer long term protection in various corrosive environments. It's critical that the correct lining be selected for your specific application. That is why you need to work with a rubber lining company that has years of experience and a great reputation.

Soft natural rubber linings provide superior resistance to abrasion and a variety of chemical services, including HCL and water treatment (FDA compliant) linings. Chlorobutyl linings have superior resistance to ozone, sunlight, and weathering with high-quality chemical and permeation resistance. They may be used for chemicals such as sodium hypochlorite, phosphoric acid and sulfuric acid. Chlorobutyl is also heat resistant to 200° F for most acids.

As complex as rubber is, one of its greatest strengths is simply its thickness. Rubber linings are typically applied at a thickness of 3/16". Thinner linings may have similar chemical resistance, but when they start to degrade the chemical reaches the steel substrate at a much quicker rate. When a rubber lining begins to degrade, only the exposed surface is attacked while the rubber underneath remains intact. This allows additional time for the pinholes to be identified and repaired prior to substrate failure.

Rubber linings can withstand the most aggressive conditions encountered in **power plants, oil production, mines, steel mills, food processing plants, water treatment plants**, and more. The possibilities are vast, but the most common types of rubber-lined equipment are pressure vessels, chemical storage tanks, tanker trailers, rail cars, hoppers, chutes, pipe, impellers, valves, pulleys, and agitators.

What can rubber do for you? [Contact us](#). We think you'll like the answer.

International Mining Project Seeks Long-Distance Solution



A billion dollar mining construction project in Mexico required more than two miles of 20" diameter rubber-lined pipe for their process water. The pipe for this project was to originate from a major distributor in Southern California. Goodwest Linings & Coatings was selected to install the rubber lining and exterior coatings.

In a growing trend in the mining industry, the mine's process water was derived from the ocean. The corrosive nature of saltwater, the abrasiveness of the slurry, and the high-pressure due to the water being pumped all the way from the sea, made for a very abusive environment. Fluor engineers decided to specify a thick soft rubber lining for the job.

The 50 ft. pipe lengths were not an obstacle due to [Goodwest's 60 ft. steam autoclave](#) for pressure curing of the rubber lining. Goodwest also applied a 3 coat exterior coating system in their large spray booths.

This was a high volume project with rapid production for a critical part of the mine operation. That is why major industrial facilities in the Western US have been relying on Goodwest's lining solutions for decades.

About Goodwest

Goodwest has installed dependable protective lining and coating systems since 1961. Providers of water, oil, power, transportation, and other key infrastructures rely on Goodwest to ensure that critical equipment stays in service as long as possible.

Goodwest specializes in applying materials resistant to the most aggressive chemical, abrasion, and high temperature environments.

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