



## Rail Tank Cars show a mere **0.044% Coating Loss over 7 years in Sodium Bisulfite service with ChemLINE®**

### OVERVIEW

For the past 40+ years, Southern Ionics Incorporated (SII) ([www.southernionics.com](http://www.southernionics.com)) has been recognized as a chemical manufacturing and delivery leader. With a fleet of bulk tank trucks and rail cars, they transport products used in applications such as wastewater treatment, air pollution control, refinery and petrochemicals catalysts, and pigments.

Historically housing conventional rubber linings in most of their lined trailers and rail tank cars, SII sought a change after experiencing rising costs in maintenance and repair. The ChemLINE® Coating System piqued their interest with studies of successful application and longevity reported during a visit to an industry trade fair in New Orleans.

**ChemLINE®**

Southern  
Ionics




# CASE STUDY



**“I mentioned trying ChemLINE® in a couple of the rail tank cars due to how it performed in the trailers.”**

**Sam White**  
SII Transportation  
& Plant Manager

## BACKGROUND

### The Story of Southern Ionics' ChemLINE® Application

SII was no stranger to the benefits of the ChemLINE® coating system, having lined part of their OTR trailer fleet back in 2009. According to Sam White, Transportation and Plant Manager of SII's West Point, Mississippi location, “We were introduced to the ChemLINE® coating system probably 12 or 13 years ago when we were having issues lining FRP trailers. We normally haul Sodium Bisulfite in the trucks, but those are stainless steel, so no problems there, but we had some rubber-lined trailers giving us issues in some of our specialty products, Zirconium, Oxychloride, and Aluminum Chloride. I had heard about the ChemLINE® coating system and decided to give it a try, and it worked really, really well in the service.”

Based on the success of the ChemLINE® coating system in the FRP trailers, Southern Ionics decided to take a chance with two of their rail tank cars after many years of service with rubber linings. “Southern Ionics is one of those companies that isn't afraid to try something new,” White added. “I used to do trucks, rail, barges, ships, everything, and then Khristy (Todd), our Manager of Corporate Services, took the rail car part over several years ago. So, we were discussing it, and I mentioned trying ChemLINE® in a couple of the rail tank cars due to how it performed in the trailers.”

## THE CHANGE

### Making the switch to ChemLINE®

Khristy shared, “Well, we had been doing well with rubber linings. But then the last few years, we were spending a fortune on liner maintenance, which is particularly expensive at \$40,000 per car.”

“It seems like every time I send a car to the shop; it'd be another \$5,000 to \$7,000 to patch it. We were spending a fortune and the cost just keeps going up.”

Satisfied with the past success of the ChemLINE® lined FRP trailers, SII reached out to Advanced Polymer Coatings (APC) home office and submitted for a Lab Review. After receiving positive test results in Sodium Bisulfite service, SII then decided to send the two rail tank cars to get relined with ChemLINE® 784/32.



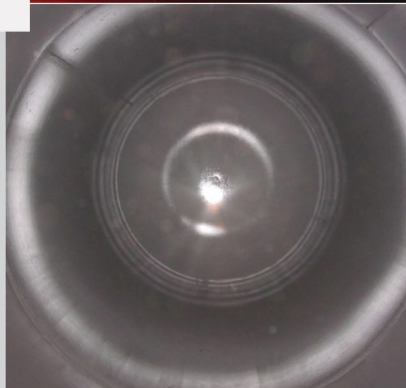
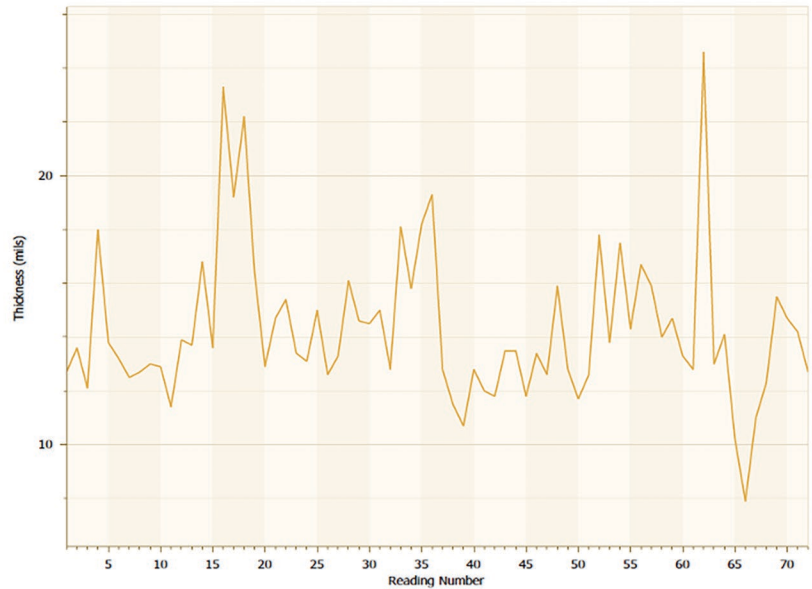
# CASE STUDY

## Initial Application

The application took place at Tank Linings of Paris in Paris, TN, in June 2015. The rubber linings were removed from the two rail tank cars, and a grey base coat of ChemLINE® 784/32 was applied, followed by a red topcoat. The tanks were then forced hot air-cured at a low temperature of 250°F and, within a few days, were put back into service.

APC technical team was present for the application process and performed the first post-application inspection. APC's Technical Service Manager, Joe Fortman, recorded the DFT readings presented in the chart to the right.

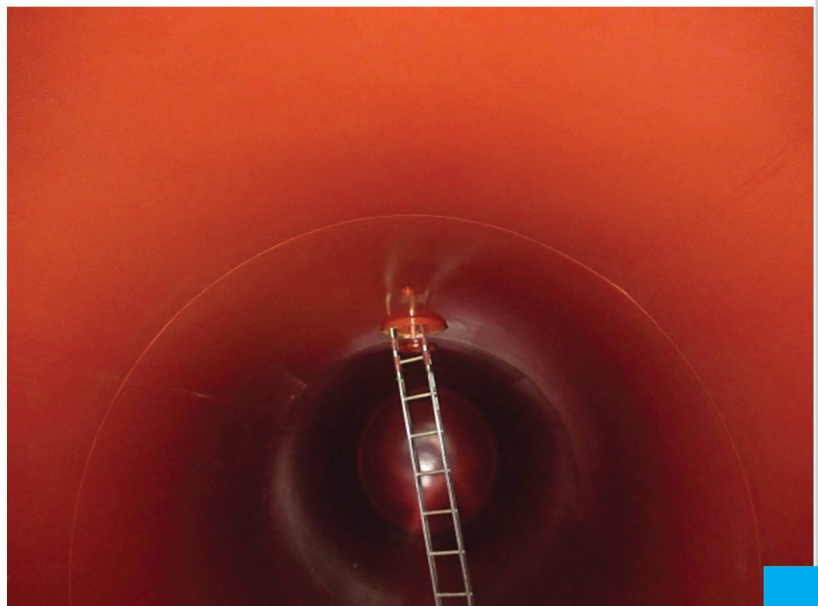
Individuals / Run Chart



## FINDINGS

### Second Inspection

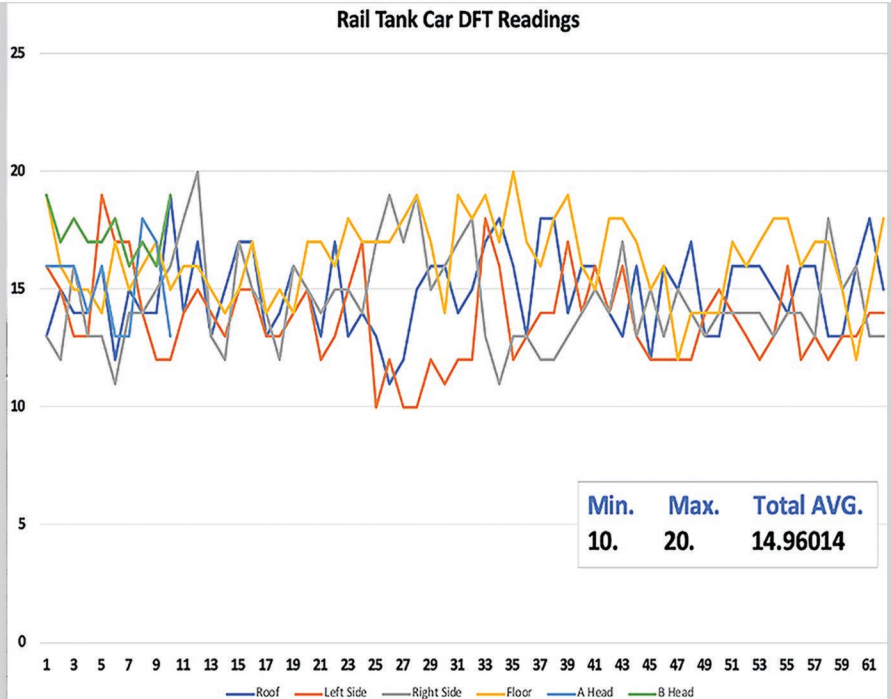
These same two rail tank cars were brought in for a field inspection in August 2018, again with APC inspectors onsite. The tank cars showed minimal corrosion around the manway, as expected. Still, the barrel of the tank car showed excellent coating condition, and the coating maintained a significant amount of gloss, as pictured below.



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## Most Recent Inspection

The most recent field inspection took place in March 2022, and the findings reported by APC inspector Fortman were astounding. The barrel of the tank car showed excellent condition, only containing two spots of concern attributed to mechanical damage, and both spots were easily repaired with ChemLINE® repair kits. The manway showed areas of corrosion around a newly noticed weld seam, which further inspection revealed the top half of the manway was cut and replaced with a stainless-steel piece somewhere along the way after the 2018 inspection. The repairs made in 2018 held firm, indicating proper surface preparation, application, and hot cure of the repair coating.



APC Inspector Fortman took DFT readings of the coating, which boasted an outstanding **0.044% coating loss over the seven years** the cars had been utilized in the Sodium Bisulfite service.

## THE RESULTS

Based on the recordings, APC's technical team feels extremely confident reporting that SII can expect to see 12+ years of successful service out of these two rail tank cars lined with the ChemLINE® coating system, providing the corrosion protection that Southern Ionics needs.

Impressed by the results of the recordings, Khristy further noted, "We are moving all of our fleet to ChemLINE®. I've actually got four headed to Ville Platte now. As more come due, we will take the rubber out and have them re-lined with ChemLINE®."

### Applying ChemLINE® to Rail Tank Cars

Southern Ionics does most of its ChemLINE® lining work at UTLX's Ville Platte, Louisiana facility. UTLX has successfully re-lined and continues to line tank cars on behalf of Southern Ionics.

Contact your Advanced Polymer Coatings representative for more information on ChemLINE® coatings for your transportation needs.

**"We are moving all of our fleet to ChemLINE®"**

**Khristy Todd**  
SII Manager of Corporate Services

