

## Technical Report – Hydrogen Pipeline

**Subject: Application of Mascoat Industrial-DTI on a Hydrogen Pipeline**

**Date: 2005**

In 2005, a large refining company (name withheld at request of client) was having trouble with a hydrogen pipe that runs across the Mississippi River from International Terminals in Port Allen, LA, USA. The 10 inch (25.4 cm) line ran across the bottom of the river and up through the ground. From there, it would run aboveground for approximately 5,000 feet (1,524 meters) to compressor house. The temperature of the contents when the pipe moved from belowground to aboveground was approximately 69°F (20°C). From the Mississippi to the compressor house, the product gained heat, due to solar loading, up to approximately 110°F (43.3°C).

The rise in temperature was causing the compressors to run hotter, which resulted in more down time for the compressors. It also meant downtime for the line, which halted production. The refiner contacted Johnny Thorning of B&H Distributors in Port Allen, LA for a solution. Thorning suggested they use Mascoat Industrial-DTI Thermal Insulating Coating because of its quick application method and ability to drastically reduce solar loading. Also, the coating is not susceptible to high winds and flying debris will only damage the spot where it contacts the coating. Conventional insulation is extremely vulnerable to both of these situations, especially in hurricane-prone Louisiana. Since Mascoat Industrial-DTI is not, little maintenance would have to be performed over the lifetime of the coating.

Thorning requested a thermal analysis be performed by Mascoat, as it would allow the client to see what the results would be before any product was purchased. After running the analysis, Mascoat determined that with only one coat (20 mils) of the coating, the temperature of the contents would only be 79°F (26.1°C) when it reached the compressor house. This was well within the limits for the compressor to run efficiently. The company then hired ProTherm to install the product.

A crew installed the coating over the entire pipeline in one coat. At parts where the pipeline was raised (>15 feet or 5 meters), the crew only needed a man lift instead of scaffolding. Since Mascoat Industrial-DTI can be applied to working substrates, the line continued to operate during installation of the coating. After application, the customer reported that the line was operating normally and the compressor was functioning without the need for nearly as many shutdowns.

Since 2005, the product has performed as forecasted and the customer has been pleased with the results.