



Denso Steelcoat 400 and 700 Systems used on the Ercebridge pipebridge near Darlington
- see story pages 4-5.

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SEASHIELD INTERNATIONAL

✓ **Marine corrosion protection systems**

9747 Whithorn Drive, Houston, Texas 77095
United States of America

Tel: +1 281 821 3355

Fax: +1 281 821 0304

Email: houston@densona.com

Web site: www.densona.com



SEASHIELD INTERNATIONAL

✓ **Marine corrosion protection systems**

411-413 Victoria Street, Brunswick, Victoria 3056,
Australia

Tel: +61 39356 7600

Fax: +61 39387 6973

Email: denso@densoaustralia.com.au

Website: www.densoaustralia.com.au



SEASHIELD INTERNATIONAL

✓ **Marine corrosion protection systems**

PO Box 76167, Manakau City, Auckland,
New Zealand

Tel: +64 9274 1255

Fax: +64 9274 1258

Email: enquiries@denso.co.nz

Website: www.densoaustralia.com.au





LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

SeaShield & Steelcoat Protection for Jetty Piles

The Port of Mackay is located in tropical central Queensland; products handled through the Port include raw sugar, refined sugar, molasses, tallow, ethanol, grain, liquid chemicals, Fertilizer, iron concentrate and petroleum.

The wharves are supported by steel piling of varying types and sizes, piling on the older wharves were protected by typical marine coating systems while the more recently constructed wharves have piling coated with a factory applied polyethylene material. Ongoing maintenance was required particularly with the

older, painted piles.

A decision was made to investigate alternative means of protecting the various types of piling at this location and after trialling various options the Seashield 80 system was chosen. This system consisted of Petrolatum Primer and Tape overwrapped with PVC backed



Above: Application of the SeaShield 80 System underway showing completed Steelcoat 100 System at the top of the pile.

Left: Some completed piles in the background. bitumen adhesive tape.

A second concern was corrosion at the pile / concrete interface, this was addressed by applying the Steelcoat 100 System consisting of a High Tack Primer and Tape over coated with a specially formulated brush applied Elastomeric Membrane, The Seashield 80 system was then installed so as to overlap the Steelcoat 100 ensuring complete long term protection against corrosion and significantly reducing ongoing maintenance costs.



Project Summary

Product type: Sub sea / splash zone coating

Country:	Australia
Location:	The Port of Mackay, Queensland
Object:	Steel jetty piles
Problem:	Corrosion prevention
Product solution:	SeaShield Series 80 System / Steelcoat 100 System

For quick identification of the relevant product type used in each story we have used the following colour codes:

Protective coatings for.....

■	BURIED PIPELINES & LPG VESSELS
■	EXPOSED STEEL & PIPEWORK
■	SUB SEA PIPELINES & JETTY PILES

Protective linings for.....

■	STORAGE TANKS, PUMPS ETC
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Sealing & waterproofing.....

■	SEALING MASTICS
■	MEMBRANES & FLASHINGS
■	INDUSTRIAL TAPES



LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

Denso Steelcoat Systems Give Quality Finish as well as Quality Protection

Northumbrian Water has recently completed a refurbishment of the 20 metre Ercebridge pipebridge near Darlington which carries potable water over a brook

Below left: Close up of how Denso Profiling Mastic is used on the flange joints to smooth contours prior to wrapping with tape.

Below centre: Close up of Denso Ultraseal Tape application to the flange joints. Each horizontal strip of tape is overlapped onto the one below in a weatherboard fashion to give extra resistance against weather penetration.

Below right: The finished pipebridge and anti-vandal guards coated with Denso S.T. Epoxy.



Project Summary

Product type: Exposed surface coatings

Country:	United Kingdom
Location:	Ercebridge near Darlington
Object	Pipebridge with anti-vandal guards
Problem:	Corrosion prevention
Product solution:	Denso Steelcoat 400 and 700 Systems



LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

The contractors for the project were Advanced Engineering Solutions Ltd of Cramlington. Their craftsmanship and expertise at applying the Denso Steelcoat 400 and 700 Systems demonstrates the fact that the systems can give an attractive finish as well as providing excellent corrosion prevention.

After wire brushing to remove previous coatings, the contractors applied Denso Hi-Tack Primer to all surfaces, Denso Profiling Mastic to the flange joints and then Denso Hi-Tack Tape followed by Denso Ultraseal Tape to both the pipe joints and barrels using 55% overlap.

Finally two coats of Denso Acrylic Topcoat were applied over the Denso Ultraseal Tape.

The anti-vandal guards were coated with the Steelcoat 700 System which comprises two coats of Denso ST Epoxy followed by a coat of Denso Weathershield to give it extra ultra violet resistance.





LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

Denso Protal 7125 protecting Jet Fuel Piping at Canada's #1 Airport

Construction in Canada provides some unique cold weather challenges that limit a large portion of liquid coatings currently on the market. As contractors struggle with trying to complete projects in a timely fashion they must deal with less than favorable application temperatures that continually slow down job progress and cost more money to finish.

This was the situation near Toronto Pearson International Airport over the past winter and one perfectly suited for Denso Protal 7125. Toronto Pearson International Airport is Canada's largest and busiest airport, serving 40% of all airline traffic in Canada. Pearson International provides air service to over 140 destinations in 45 countries around the world and has recently added a new terminal to better handle their 31,000,000 annual passengers.

With the new airport terminal now in place, there was a need for additional offsite jet fuel tanks and the associated piping required to carry fuel approximately 5kms into the airport. Field repairs and girth welds being coated at minus 15°C were protected using Denso Protal 7125. The 7125

fast cure, low temperature coating allowed construction crews to continue their work without the delay of preheating. This has kept the project on-time and on-track and worked extremely well during the cold winter months. The project continues on now through the summer with 100's of lengths of Denso Protal 7250 protected pipe being installed. The pipeline installation has also provided approximately 1000



Jet fuel pipelengths stockpiled prior to installation at the airport.

Project Summary

Product type: Buried pipes and fittings

Country:	Canada
Location:	Toronto Pearson International Airport
Object	Jet fuel pipeline
Problem:	Corrosion prevention
Product solution:	Denso Protal 7125

girth welds that will be coated with Protal 7200.

The versatility of Denso Protal Liquid Coatings has again given us an advantage over most other epoxies on the market and this has been especially true in dealing with the wide temperature ranges our construction companies are faced with each year in Canada.



LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY



Above and below: With no preheating necessary, the girth welds can easily be coated with Protal 7125 at temperatures of -15°C .
Inset above: New jet fuel tanks being constructed approximately 5km from the airport



Corrosion Prevention for Buried Jet Fuel Pipelines - Canada



LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

Denso Steelcoat 400 Protects Barge Roof Structure at Richards Bay Heavy Minerals

Richards Bay Minerals (RBM) is a leading producer of titania slag, high purity pig iron, rutile and zircon. The company is situated in Richards Bay on the Indian Ocean coastline in northern KwaZulu Natal, South Africa.



The dredger and concentrator plant.

RBM uses an ingenious dredge mining operation to extract and separate the heavy minerals ilmenite, rutile and zircon (about 5% in volume) from the sand.

A large artificial freshwater pond is created in the dunes on which they float the dredger and concentrator plant, burrowing into the mining face of the dune.

As the sand face is undermined, it collapses into the pond forming a slurry which is sucked up and pumped to a floating concentrator.

At this point, the heavy minerals are separated from the sand using a gravity process and stockpiled as heavy mineral concentrate (HMC) for transportation to the smelter site.

Due to this process as well as

the coastal environment, corrosion is a serious concern. To combat this, the Steelcoat 400 System was selected to protect the roof structure of the dredger, as at the highest point the structure is exposed to the prevailing winds and salt sea air.

PJ Painters, Denso's applicators of the Steelcoat System for many years, are the resident contractors on site and are currently applying the 3500 sq.m. of Steelcoat 400.



The roof structure of the dredger is protected against the highly corrosive environment with the Denso Steelcoat 400 System.

Project Summary

Product type: Exposed Surface Coatings

Country:	Republic of South Africa
Location:	Richards Bay, KwaZulu, Natal
Object	Roof structure steelwork of dredger plant
Problem:	Corrosion prevention in aggressive environment
Product solution:	Denso Steelcoat 400 System



LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

Denso 1000 SA Waterproofing Membrane used in Three New Nigerian Buildings

Denso SA Waterproofing Membrane has been used for tanking the substructure of three major buildings recently constructed in Nigeria. The products were supplied and applied by Denso agents, Masterproofer Ltd, Lagos



Above: Shell Ltd, Federal Capital, Abuja.

Constructed by main contractors, Costain (West Africa) Plc and structural engineers Morgan Omonitan & Abe. Denso 3000 SA Waterproofing Membrane was used.



Above: Central Bank of Nigeria, Katsina.

Constructed by main contractors, Cappa and D'Albert Plc and structural engineers Civ-Struct Associates. Denso 3000 SA Waterproofing Membrane was used.



Above: Protea Hotel, Victoria Island, Lagos.

Designed by architects Design Group Nigeria. Constructed by main contractors, Grinaker-LTA Construction Ltd and structural engineers Ove Arup & Partners Nigeria. Denso 1000 SA Waterproofing Membrane was used.

Project Summary

Product type: Waterproofing membranes

Country:	Nigeria, West Africa
Locations:	Lagos, Abuja and Katsina
Object	New buildings
Problem:	Waterproofing of building substructure
Product solution:	Denso 1000 SA and 3000 SA Waterproofing Membrane



LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

LCRA Sweating Ammonia Tanks Protected With Denso Hi-Tack Tape

The Lower Colorado River Authority or LCRA is a nonprofit public utility that was formed in 1934 by the Texas Legislature. LCRA's mission is to protect people, property and the environment by providing public services for more than one million people in Central and Southeast Texas.

These services include electric and water supplies, flood management, water and wastewater utilities, public parks along the Highland Lakes and lower Colorado River, and community and economic development services to rural and suburban communities. Many of the LCRA facilities have pipe, tanks and various steel structures that operate in a highly corrosive environment.



Project Summary

Product type: Exposed Surface Coatings

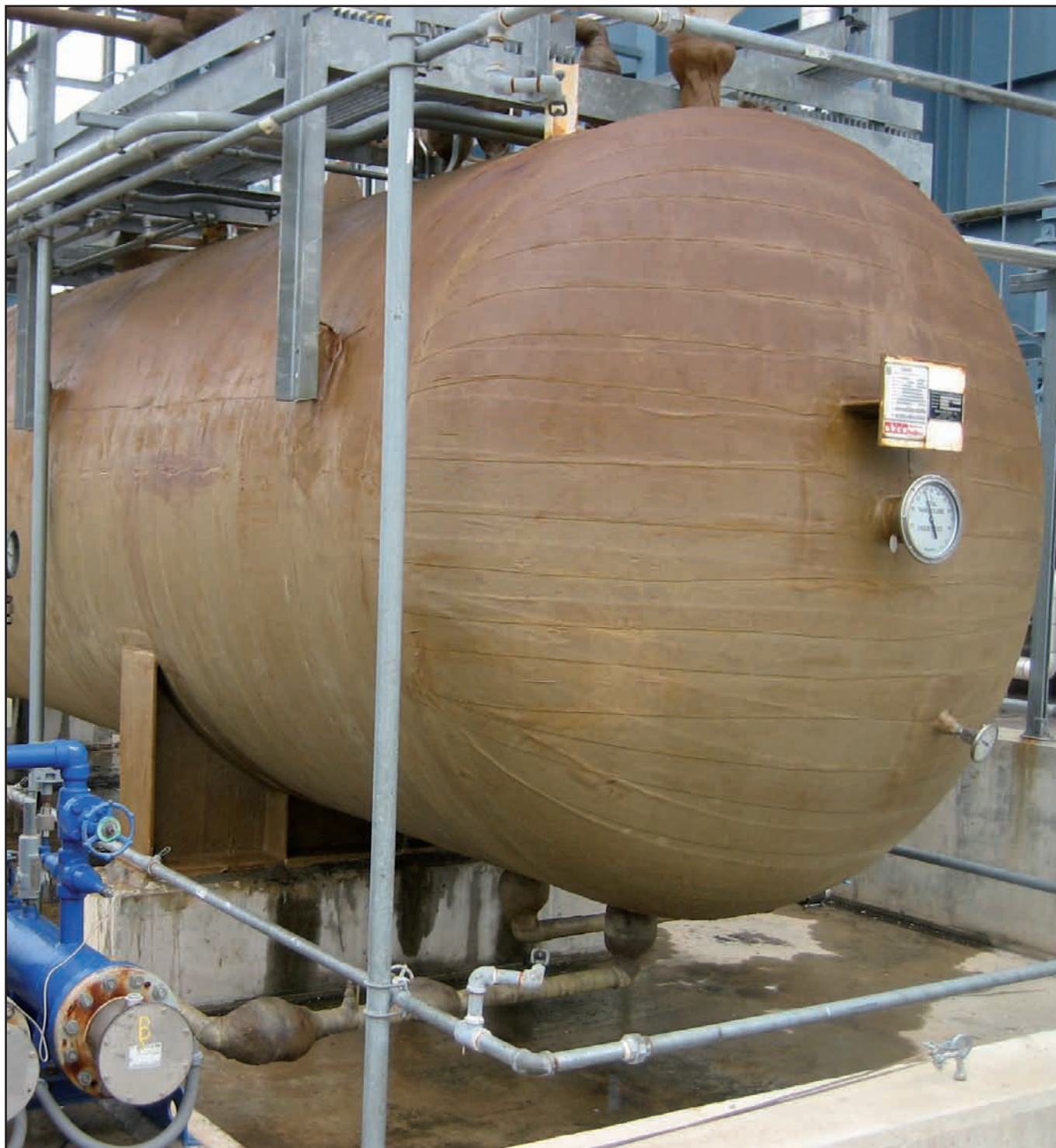
Country:	United States of America
Location:	Texas
Object	Ammonia tanks
Problem:	Corrosion prevention in aggressive environment
Product solution:	Denso Steelcoat 100 System

Corrosion protection for 2 large ammonia tanks (10 ft tall x 40 ft long) at their Bastrop facility had been a continual battle due to constant sweating. After many years of painting the tanks (every 3 to 5 years), the LCRA engineers selected the Denso Hi-Tack Tape coating for long-term corrosion protection.

The scope of the work included hand tool cleaning the



LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY



Photos: Denso Hi-Tack Tape and Primer applied to sweating ammonia tanks.

surface, application of a thin layer of Denso Hi-Tack Primer and a double layer of Denso Hi-Tack Tape to the tanks and steel support columns. The total

surface area protected was approx. 3,100 square feet.

The contractor completed the project in 4 days and the LCRA personnel were very pleased

with the results. The large steel tanks will now receive many more years of long-term corrosion prevention.