



Volume 33 - Number 4

Premier Coatings Ltd achieve a Queen's Award for Enterprise: International Trade - See page 3

QUALITY & INNOVATION FROM 1883 INTO THE 21ST CENTURY



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9747 Whithorn Drive, Houston, Texas 77095

United States of America

✓ Marine corrosion protection systems

Tel: +1 281 821 3355
 Fax: +1 281 821 0304
 Email: houston@denso-na.com
 Website: www.densona.com



SEASHIELD INTERNATIONAL

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

✓ Marine corrosion protection systems

Tel: +61 1300 658 590
 Fax: +61 1300 655 064
 Email: denso@densoaustralia.com.au
 Website: www.densoaustralia.com.au



SEASHIELD INTERNATIONAL

PO Box 76167, Manakau City, Auckland,
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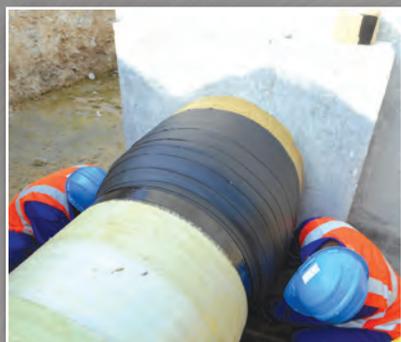
Tel: +44 (0) 1233 770663
 Fax: +44 (0) 1233 770633
 Email: enquiries@premiercoatings.com
 Website: www.premiercoatings.com





LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

Global Sales Recognised With A Queen's Award For Enterprise: International Trade For Premier Coatings Ltd.



Premier Coatings Ltd are proud to announce that they have been honoured with a Queen's Award for Enterprise: International Trade. The prestigious award has been won for outstanding growth in overseas sales in the last three years.



Founded in 1982, Premier Coatings Ltd specialises in the manufacture and supply of high quality anti-corrosion, sealing and waterproofing products for the protection of buried, submerged or exposed steel and concrete. Their product brands are well known for ease of use, reliability and long-service life. Customers include the offshore, construction and civil engineering industries as well as the water, electric and gas utilities.

In 1997 Premier Coatings Ltd was acquired by anti-corrosion and sealing specialist Winn & Coales International Ltd and has thrived as a subsidiary ever since offering an alternative range of products to the parent company's global market. Based in Smarden, just outside Headcorn in Kent, the company's products are manufactured to meet the requirements of national and international standards as well as commercial specifications and have gained a well earned reputation for consistent high quality.

The steady increase in the demand for their products has prompted heavy investment with the recent installation of an additional plant in their factory. The new plant has already improved efficiency and reduced waste.

The Queen's Award has been earned as a result of the combined efforts of the company's UK staff and their global network of agents offering proven and cost-effective solutions for their customers, backed by technical advice.

Winn & Coales International Ltd Chairman David Winn OBE says "I am delighted and very proud that our subsidiary Premier Coatings Ltd, has achieved this prestigious award and my thanks go to all of our dedicated staff and loyal customers, for helping to make this happen".



LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

Densoband™ Flexible Sealant Used Again at the London Gateway

Densoband flexible sealing strip was one of three Denso protection products chosen for use in the original construction of the London Gateway at Stanford-le-Hope, Essex. The principal contractor was a joint venture between Laing O'Rourke and Dredging International.

For this phase 1 project, sub-contractors Aggregate Industries applied approximately 12,000 metres of black Densoband™ as a flexible sealant between asphalt and concrete. This included sealing concrete channels to take away surface water from gullies and bays.

Aggregate Industries have now completed a new project as main contractor which entailed application of

approximately 2,000 metres of Densoband for jointing asphalt to concrete in the general parking areas of the Gateway. Miles Macadam then applied a final hardcrete grout to this parking area.

Densoband is a polymer modified bitumen strip which is approved for use with asphalt surface course joints for asphalt to asphalt and asphalt to concrete interfaces as an alternative to the previously

Typical area at the Gateway where Densoband was used to join asphalt to concrete surfaces.



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

Sealing & waterproofing.....

- SEALING MASTICS
- MEMBRANES & FLASHINGS
- INDUSTRIAL TAPES

commonly use hot poured bitumen. Because Densoband prevents water, salts, pollutants and weed seeds from penetrating the joints they are unaffected by extremes of weather and further deterioration.

Project Summary

Product type:
Sealing Mastics

- Country:** United Kingdom
- Object:** Asphalt and concrete
- Problem:** Sealing joints
- Product solution:** Densoband



LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY



Project Summary

Product type:
Exposed Steel Coating

Country: UAE
Object: Oil Slop Tank
Problem: Corrosion prevention
Product solution: The Steelcoat Tank Base Protection System

Still in perfect condition after four years of direct exposure to the UAE desert environment!

A major UAE Operating Company at the heart of the UAE hydrocarbon chain that is engaged in the extraction of Natural Gas Liquids (NGL) from associated and non-associated gas has been successfully utilizing the Denso Steelcoat Tank Base protection system for the past four years.

The company plays a strategic role in the UAE's hydrocarbon chain and are a vital enabler of industrial and economic progress. Other industries in this highly integrated chain include on and offshore oil production, petrochemicals, refining, fertilizers, water and electricity agencies and infrastructure industries such as steel, cement and aluminum smelting.

In 2013 and featured in a previous Denso Digest, the Denso Steelcoat Tank Base Protection System was chosen to seal the bases of a purified water tank in Qatar and a crude oil tank in the UAE.

The bases and chimes of Aboveground Storage Tanks (AST) present challenging

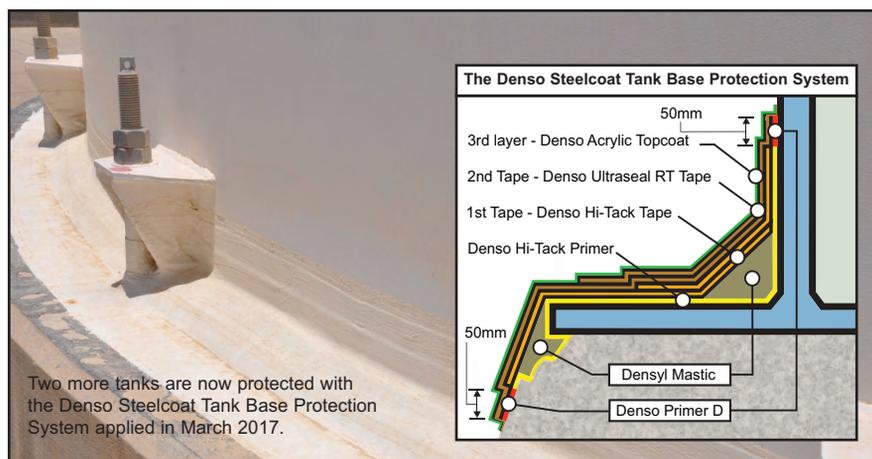
conditions for corrosion protection. Salt laden aerosols and industrial pollutants can be deposited on the walls of an AST. Rainwater run-off from the walls will transport these accumulated deposits to the base of the AST forming a strong electrolyte and facilitating electrochemical

corrosion. This can corrode the periphery of the tank base, the weld area and the lower wall. It can also cause crevice corrosion in the underside of the tank base. This will lead to metal loss, perforation and structural problems. The concrete annulus can also spall and degrade and any seal initially installed to the base of the tank at the time of construction can degrade by the action of weathering or become irreversibly displaced/compressed /debonded by the cyclic movement caused by emptying and filling the tank.

Corrosion of the steel, degradation of the concrete, and loss of an effective seal can create a route for the ingress of water to the underside of the tank causing damaging and unseen corrosion to the external base of the AST.

This can be particularly likely if the external periphery of the AST does not drain properly. The solution is the Denso Steelcoat Tank Base Protection System.

During a recent visit to this important UAE customer to look at two new Denso Steelcoat Tank Base Protection system installations, the original 2013 application was inspected and proved to be in excellent condition after four years tough service.





LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

Denso System Protects RTD Sensors on 36" Pipeline

Denso Protal 7200/7250™ Liquid Epoxies are widely approved and used for shop and field applied liquid coating solutions in Canada. Denso North America in Canada has numerous Denso Approved Application Companies that are always looking for unique coating solutions. The strong relationships that Denso North America have with these Approved Application Companies encourages these companies to find coating solutions that may include the use of two or more Denso coating systems.

Norpoint Sandblasting & Painting Ltd in Edmonton, Alberta has been a long time Denso Approved Application Company. They required a coating system resolution for the installation of Skin-Type Resistance Temperature Detectors (RTDs) on several 36" pipeline mainline block valve assemblies.

The RTDs are used to detect temperature fluctuations within higher temperature pipelines. Resistance Temperature Detectors contain a resistor that changes resistance value as its temperature changes. They have been used for many years to measure temperatures in laboratory and industrial processes, and have developed a reputation for accuracy, repeatability, and stability. This

Photo 2.



Photo 1.

information gathered on the temperature fluctuations aid in the leak detection processes.

Most RTD elements consist of a length of fine coiled wire wrapped around a ceramic or glass core. The element is usually quite fragile, so it is often placed inside a sheathed probe to protect it. The RTD sensor is attached to the surface of the pipe and will be buried with the assembly. Corrosion and environmental protection is required to ensure the RTD operates properly during its service life. This required a specialized coating system to coat and protect these RTDs for long term performance.

The coating scope of work was that the entire block valve and pipe spool assembly was first abrasive blasted to a SSPC-SP10 Near-White Metal with a 2.5 to 5 mil profile. Denso Protal 7250 Spray Epoxy was then applied at 25-35 mils DFT

Project Summary

Product type:
Exposed Steel Coating

Country: Canada
Object: 36" pipeline
Problem: RTD sensors
Product solution: Denso multi-product system



LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY



Photo 3.



Photo 4.

over the entire below ground section of the block valve and pipe spool assembly.

The RTD sensor was then attached to the surface of the pipe. The entire area was then coated with a thin layer for Denso Paste HT™ (Photo 1). Then the RTD is encapsulated with a layer of Densyl Mastic™ (Photo 2). This would assure there were not any voids or cavities left around the RTD. Denso Hotline Tape™ was then applied with a 55% overlap around the entire circumference of the pipe (Photo 3). This would ensure the long term sealing of the area around the RTD.

The entire area was then wrapped with Denso Glass Outerwrap™ to give mechanical protection to the entire assembly (Photo 4). The entire valve assemblies were then ready to be shipped to site for final installation (Photo 5).

The End User that required these block valve and pipe spool assemblies appreciated the fact that Denso North America was able to offer the entire solution for coating these RTDs.

Photo 5.





LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

SeaShield™ Seals Steel Shell Joints in Tea Garden Creek Weir Refurbishment Project



Photos supplied by courtesy of Goulburn-Murray Water and Professional Diving Services

Tea Garden Creek is situated approximately 260 kilometres from Melbourne, Victoria. The weir is managed by Goulburn-Murray Water. It was established in the Ovens River in the 1960s to supply irrigation and stock and domestic water down the Tea Garden Creek.

The weir is a 60 year old reinforced concrete structure that was upgraded to ensure irrigation and stock and domestic water continued to flow to the Wangaratta region. The project not only extended the weir's life; its innovative upgrade also saved about \$1.25 million compared with the cost of replacing the weir.

A stainless steel protective shell was retrofitted to the existing structure. Denso SeaShield Splashzone UW Epoxy™ was used to seal all joints prior to filling with Denso 311 Epoxy™.

Professional Diving Services was commissioned to assist with the refurbishment works from the design phase through to commissioning. Professional Diving Services ensured the installation methods and materials were feasible for use underwater.



Above: The original 60 year old weir before refurbishment.

Below: Underwater joints in the new stainless steel shell were first filled with Denso 311 epoxy and then sealed with SeaShield Splashzone UW Epoxy.



Project Summary

Product type:
Sub Sea Splash Zone Coating

Country: Australia
Object: Stainless steel shell
Problem: Sealing joints
Product solution: SeaShield Slashzone UW Epoxy / Denso 311 Epoxy



LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY



Right: The refurbished Tea Garden Creek Weir.
Below: View underneath the weir.





LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

Denso ST100™ Put To The Test In South African Cellulose Mill

The Sappi Specialised Cellulose Mill which is situated in Umkomaas, Kwa Zulu Natal, is the world's largest manufacturer and seller of dissolving wood pulp. Deep down towards the centre of the mill lies the Dry Pulp store which has a conveyor system inside which aids in the packaging of the dry pulp. Below the conveyor is a concrete floor which has been exposed to over 20 years of oil, grease and other contaminants which has left the area looking terribly untidy and has made maintenance of the concrete a tough task.

A contracting company named Classic Instyle Painting who does the majority of the maintenance work for the Saiccor Mill, undertook the task of preparing the almost impossible, to clean the surface and then apply the Denso ST100 Epoxy™ in conjunction with the Denso Epoxy Penetrating Primer™.

The contamination of oil and grease was so severe that the concrete had to be degreased and Acid Etched in excess of three times to ensure the surface was suitable for coating. A prime coat of Denso Epoxy Penetrating Primer was applied at a thickness of 60µm DFT followed by two coats of ST100 at a DFT of 250µm to complete the system.

Being first time applicators of the Denso ST100, Classic Instyle Painting was pleasantly surprised

at the ease of application of this system and the aesthetically pleasing finish, post application.

The pulp store has been left looking extremely impressive and has eliminated any further contamination of oil and grease in the concrete surrounding the conveyor.



Above: Condition of the mill floor prior to cleaning.

Below: The mill floor after the application of Denso ST100.



Project Summary

Product type:
Lining for Concrete Floor

Country: South Africa
Object: Cellulose mill floor
Problem: Contaminated
Product solution: Denso ST100



LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

Look At Our New SeaShield™ Website!

Jetty Pile Protection
The protection of shore based structures in the immersed, atmospheric and splash zones. Pile materials of steel, timber and concrete and piles of round, square, hexagonal and H sections can all be accommodated. Protection can also be offered for cross bracings, pipework and other parts of the structure.

Offshore Facilities Protection
The protection of offshore structures in the immersed, atmospheric and splash zones. Protection can be offered not just for structural members of the structure but also for pipework, risers and similar exposed areas.

Sheet Piling Protection
The protection of sheet piling in the immersed, atmospheric and splash zones.

www.seashield.com

Winn & Coales International would like to bring your attention to their recently redesigned SeaShield™ Marine Protection Systems website which can be found at www.seashield.com.

The new website features a modern, streamlined design that showcases the solutions available to customers, details for each of the product systems available and real world case studies highlighting SeaShield's protective capabilities. A comprehensive questionnaire allows enquirers to outline their own unique requirements in order to receive tailored advice or make contact with more

general enquiries, all of which are available in an easily navigable, mobile optimised format.

SeaShield systems provide protection to structures that are vulnerable to corrosion in marine environments. Offering long-term corrosion prevention to jetty piles, offshore structures and sheet piles, multiple grades of defense can be employed to achieve cost effective protection irrespective of section structure design.

We invite you to take a look at our exciting new website and discover our excellent range of marine protection systems with over 40 years proven track record of durability and success.





LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

Densostrip™ used to Seal New Concrete Beach Huts

Raymond Brown Construction Ltd has started to install 119 new concrete beach huts at Milford on Sea. Infrastructure works include a concrete promenade slab, access ramps and steps, and pedestrian walk-way surfacing.

These replace the masonry beach huts that were destroyed in a Valentine's Day storm in 2014. The new beach huts are being constructed from pre-cast reinforced concrete units to form four individual terraces totalling 250m length. Each terraced section of huts is formed from a culvert placed on its side with an open front. The sealant in each culvert section will play an essential role in ensuring longevity.



The original beach huts destroyed by a severe storm in February 2014.



Artists impression of the new beach huts

Denso's widely used Densostrip™ sealant was recommended to Raymond Brown Construction by Merchant Suppliers, Resapol of Southampton. Apart from its track record, the immediate availability of Densostrip in 20mm x 25mm sections was also an advantage to the contractor. Densostrip is a compound rubber and bitumen joint sealing strip for precast concrete units to provide a permanently flexible watertight seal when compressed

The new beach huts under construction - Densostrip is to join each pre-cast culvert section together.

between joint faces previously primed with Densostrip primer. As well as water and sea water it is resistant to chemical and biological attack.

In addition to being an effective seal for precast concrete box culverts, other uses include manholes, inspection chambers, shafts, tunnels and pipe sections.



DENSOSTRIP™

Project Summary

Product type:
Sealing Mastics

Country: United Kingdom
Object: Asphalt and concrete
Problem: Sealing joints
Product solution: Densostrip



LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

Oil Storage Tank Interiors Protected with Archco™ Linings

A large US oil pipeline, storage and transportation company had been experiencing numerous coating failures with their existing internal tank linings and was looking for a solution.

Project Summary	
Product type: Industrial Linings	
Country:	USA
Object:	Oil Storage Tanks
Problem:	Protective lining
Product	Archco
solution:	Industrial Linings



Archco 476P applied over the Archco 400 primer to provide excellent chemical and high temperature resistances.

The decision was made to switch to the Denso Archco 400™ as a primer and Archco 476P™ as a topcoat, due to the excellent chemical and high temperature resistance that these linings provide.

Other key factors that played into the decision to switch to Denso were the company's success with several other Denso buried pipeline coatings and the valuable technical service provided by Denso.

The internal tank floor and two feet up the sidewall were blasted to a near white finish (SSPC SP-10). The Archco 400 primer, which is a two part epoxy with superior wet-out properties suitable for sealing heavily pitted floors, was easily sprayed with a single leg (68:1) airless spray unit. The following day the Archco 476P was applied using a plural component airless spray unit.

This allowed for the tank to be returned to service very quickly (8 hours at 75°F / 23°C). The Archco 476P is a 100% solids, two-part, high-temperature resistant, epoxy phenolic-novolac system designed for internal tank linings.

The owners can expect a service life of 20+ years with the Denso Archco Tank & Pipe Lining Systems.



Fully cured Archco 476P lining providing corrosion protection and allowing the tank to return to service within 8 hours.



Archco 400 primer being applied to the blasted floor and side walls of the tank.



LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

Denso Protection System used for National Grid LNG Tank Bases

The Denso Steelcoat Tank Base Protection System™ is being used at the Isle of Grain National Grid site on four of their LNG storage tanks. The installation work was carried out by contractors JPV Painters of Brentwood.



The National Grid LNG storage tank.

To meet various operating conditions at the Isle of Grain National Grid site the Denso Tank Base system was chosen to give effective protection.

Following surface preparation, Denso Hi-Tack Primer™ and Denso Primer D™ were applied. Densyl Mastic™ was then applied in the gap between the tank and base to prevent entrapment of water but also a smooth profile when applying the following Denso Hi-Tack Tape™. A single layer of Denso Ultraseal RT Tape™ was applied and then finally a topcoat.

Below: After surface preparation is complete, Denso primers must be applied followed by Densyl Mastic to fill all the gaps between the tank and base prior to adding the tape layers.

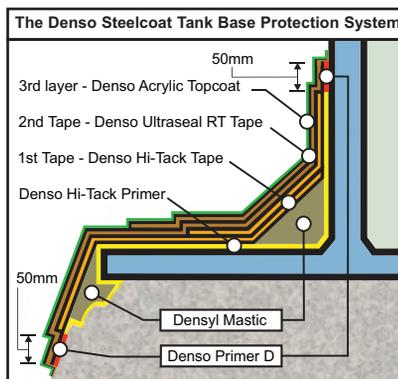


Project Summary

Product type:
Exposed Steel Coating

Country: United Kingdom
Object: LNG storage tank
Problem: Corrosion prevention
Product solution: Steelcoat Tank Base Protection System

The Denso Steelcoat Tank Base Protection System is flexible enough to move with the tank when it gets filled and emptied and provides a tough outer armouring. The highly weather resistant system provides a long-lasting solution to Tank Base problems.





LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY



Above: The Denso Hi-Tack Tape is applied.



Above and below: After a single layer of Denso Ultraseal RT Tape is applied, a coat of Denso Topcoat completes the Steelcoat system application.



If you would like more information about our long-term corrosion prevention and sealing systems that deal with the problem areas listed below, simply tick the boxes and fax back this completed page and we will supply you with more information.

BURIED ONSHORE COATINGS

- External corrosion prevention for underground pipelines, welded joints, valves and fittings.
- Protection of mounded LPG vessels and fuel tanks.

EXPOSED SURFACE COATINGS

- Corrosion prevention for chemical plant, structural steelwork, above ground pipes, storage tanks, offshore rigs, bridges and support cables, cranes and pipe bridges.
- Corrosion prevention for metal roof purlins and metal roof sheets.
- Protecting pre-stressing and post tensioning bridge cables and ground anchorages.

SUB SEA/SPLASH ZONE COATINGS

- Maintenance corrosion protection for steel jetty piles.
- Subsea pipelines and outfalls.
- Protection of timber and concrete piling.

INDUSTRIAL LININGS

- Internal linings for tanks, pumps, vessels and pipelines.
- Linings for concrete bunds and floors.
- External abrasive wear protection

MEMBRANES & FLASHINGS

- Tanking / waterproofing.
- Exposed rooftops and parapets.

SEALING MASTICS

- Joint sealing of precast concrete manholes and culverts.
- Joint and crack sealing of asphalt road surface wearing courses.
- Joint sealing for airport runways.
- Sealing of cable entry ducts.

INDUSTRIAL TAPES

- Sealing and insulating
- Protecting and bonding

DIY WEATHERPROOFING

- Waterproofing and flashing

For further information - tick boxes, fill in coupon and fax or post to your nearest Denso branch (full list of addresses on page 2).

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 AUSTRALIA: +61 39387 6973 • NEW ZEALAND: +64 9274 1258 • SOUTH AFRICA: +27 31 569 4328



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Denso House, Chapel Road, London SE27 0TR

Tel: +44 (0) 20 8670 7511 Fax: +44 (0) 20 8761 2456 Email: mail@denso.net Web: www.denso.net

