

WINN & COALES INTERNATIONAL LTD

Denso Digest



Milford Haven terminal, jetty piles protected with SeaShield 2000HD - See story page 11.

QUALITY & INNOVATION FROM 1883 INTO THE 21ST CENTURY



WINN & COALES INTERNATIONAL LTD

For further information on our products and their suitability for your particular project,
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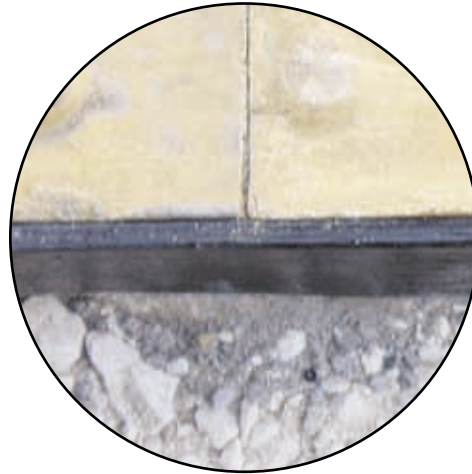
Sealing Mastics - Jointing Asphalt to Concrete

Densoband Seals Sheffield Railway Station Platforms

Network Rail are currently carrying out a platform modernisation and upgrade programme for Midland Mainline including the main Sheffield railway station. The work is being carried out by contractors C. Spencer Ltd of Barrow-on-Humber.

As part of the Design and Build project, Densoband was chosen to seal the joints between the concrete platforms and the asphalt areas.

Densoband is approved by the Department of Transport in the Manual of Contracts 7th Edition for use in asphalt wearing course joints for asphalt to asphalt and asphalt to concrete interfaces as an alternative to the previously used hot poured bitumen. Because water, salts pollutants



To enable quick identification of the subject matter within each story in this brochure we have adopted the following colour codes.

PROJECTS INVOLVING:	
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

and weed seeds etc cannot penetrate the sealed joint, it remains unaffected by extremes of temperature and further deterioration.

Left: Good example of why Densoband provides the ideal solution. Close-up shows it covers the entire depth of the joint face giving an exceptional joint seal.

Below: Densoband is placed against the vertical joint face of a concrete platform section prior to laying the asphalt area that will join up to it.





The Denso protected turbines under construction.

Corrosion Prevention - Sealing Re-bar Rods

Canadian Wind Turbines Protected With Denso

The push for alternative energy sources has been at the forefront of most people's minds lately, especially with fuel prices reaching new heights almost daily. Wind power is one of the alternatives that is making a difference in Canada as Canadian Hydro Producing companies harness this vast body of clean energy.

The first phase of this renewable energy project involves building 45 x 1.5 Mega Watt General Electric wind turbines that are placed strategically over approximately 2500 acres of land in Central Canada (Ontario).

The installed capacity has the ability to generate 67.5 megawatts of renewable energy and lessen the reliance on more traditional types of fuel burning energy production.

Denso in Canada has been



Re-bar rods being installed on site.

involved in providing anti-corrosion protection to the large number of anchoring re-bar rods that support these massive structures and form part

of the foundation for the base.

Denso Priming Solution is applied to the anchor bolts at the manufacturing plant to avoid corrosion during shipping and installation in the field.

Once onsite, the bolted rods are set into a concrete pad and then attached to the bottom cylindrical base. After each section has been bolted together, the turbine head itself, complete with 3 x 50ft blades are mounted on top of the tower structure. Each turbine is then connected by heavy electrical cable. As the turbines spin slowly in their cycle, the energy produced is directed into the power grid for the area.

This project has provided another unique opportunity for Denso Anti-Corrosion Products and proven once again that no matter which way the wind blows, Denso is there to protect the integrity of the structure for years to come!!

Dartford Composites - GRP Specialists

Creating the Impossible - A GRP Success Story

"When it comes to GRP manufacture, I always say, nothing is impossible". This bold claim has been the proud motto of Dartford Composites' chief executive and founder, Bill Player, since he started the company in 1988.



A racing car simulator made by local school children under Bill Player's guidance and supervision, gets an enthusiastic reception from UK Prime Minister, Tony Blair at the opening of a new technical college in Bexley, Kent.

By all accounts Bill has more than lived up to his words by becoming one of the country's leading experts and problem solvers in the field of GRP (glass reinforced plastic) manufacture and having produced to-date a multitude of items, as diverse as a Russian Cupula church dome, fire engine tanks, hospital scanner bodies, a kinetic energy driven gearbox, train doors, Caterham car bodies, Dennis Eagle lorry cabs and Plessey radar screens to name just a few. In fact, many of the articles Bill has successfully



produced were so challenging that other GRP fabrication companies refused to even consider them.

Bill began working in the GRP industry at 18 years of age in 1975, and rapidly gained experience in all aspects of the technology. In 1988 he founded Dartford Composites which was purchased by Winn & Coales (Denso) Ltd in 1997.

Since then with increased financial security, business has steadily continued to improve, with a £1.2m order from the South Eastern Rail

Company for GRP anti-surf shields that Bill and his team had developed, to be made and fitted to the carriages. Most recently the company won a £3.2m contract with Connex for painting 157 four carriage trains.

Bill says that a large part of their success is due to his having a great team of colleagues at his side, all working towards the same goal. Bill is confident that the company will continue to grow over the next few years. In fact he has recently just finished the first stage of expanding his manufacturing operation by renting additional premises near his factory at Slade Green, Dartford, Kent.

Manufacturing projects recently undertaken by Dartford Composites Ltd include the following...

1. Eurostar train bodies and various carriage modifications for South Eastern Rail and Connex.



2. Caterham car bodies



3. Radar Screens and flight simulator bodies for the airline industry.



4. Stone effect signs for famous football clubs.



4. Russian church dome (cupula).



Corrosion Prevention - Filter Linings

Archco-Rigidon Protects Ozone Filtering System

The Melbourne Sports and Aquatic Centre, is the premier sporting complex for 2006 Commonwealth Games. The swimming pool facilities are world class, and are home to some of our world champion swimmers.

The complex boasts the use of Ozone filtering system, which is renowned as the cleanest filtering system available.

Maintenance is a downside to this system due to the harsh effect of Ozone on the internal lining system.

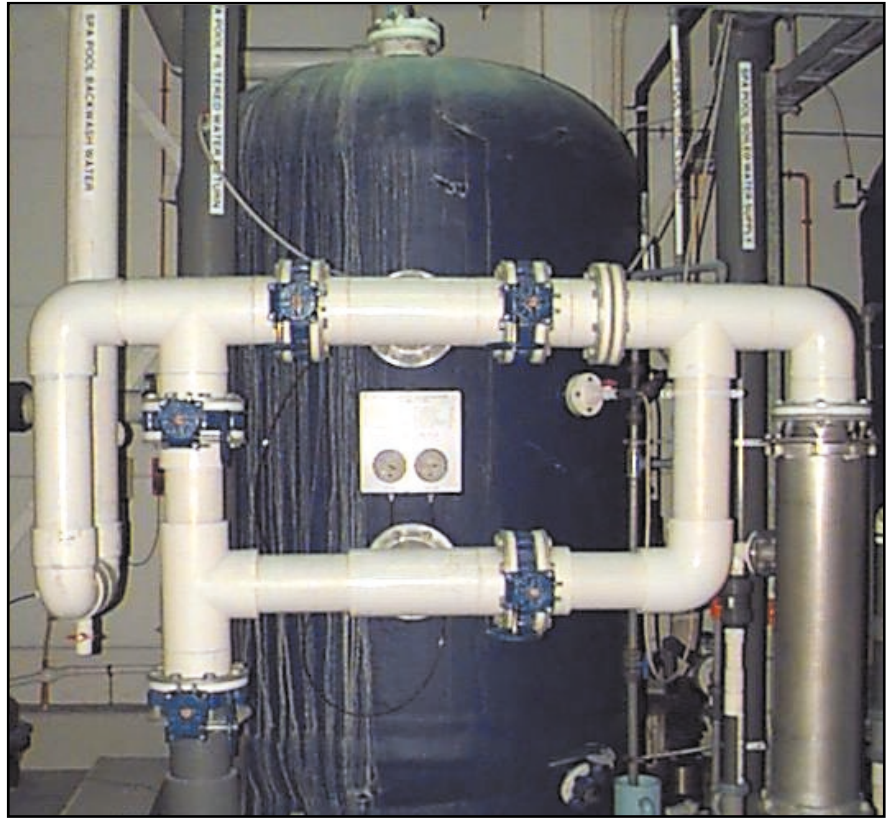
MSAC commissioned Roejen Engineering Services to specify the most suitable lining, Roejen are an authority in the Australian Aquatic Industry, and chose our Archco-Rigidon 423D Lining System.

Our Denso Specialist Applicator, Universal Blast & Paint, successfully applied the Archco 423D System onto eight filters.



Above: The Melbourne Sports and Aquatic Centre.

Below: Part of the Ozone filtering system.



Before the application of the lining.



The finished Archco 432D lining.



ARCHCO RIGIDON
Resistant Materials

Corrosion Prevention - Buried Pipeline

Protal 7200 Used For Pipeline Rehabilitation

Pipeline Integrity is rapidly becoming a major factor for pipeline companies in North America. Pipeline companies, by law, must operate safe pipelines and provide documentation to prove that all external corrosion defects are controlled from adversely impacting structural integrity. The cost impact due to a failure is not an option.

With thousands of miles of buried pipelines constructed and coated well over 50 years ago, in many instances, the old coating has gone well past its useful service life. Denso's Protal 7200 is fast becoming the product of choice for recoating these pipelines in the field.

Recently, Columbia Gulf Transmission selected the Protal 7200 to recoat approximately 1.5 miles of 30" and 36" diameter pipe. The project consisted of excavating and exposing the pipe in the ditch and removing the original coal tar epoxy coating. Prior to recoating, the pipe was sandblasted to a near white metal finish, SSPC SP-10 or NACE No. 2 standard. After the surface was prepared, the Protal 7200 was applied using plural component spray equipment. The coating was applied by the Mears Group at an average thickness of 27-34 mils in one coat. The tack-free time was approximately 30 minutes and

the pipe was ready for backfill within 2 hours.

Protal 7200 is a VOC free, 100% solids epoxy that exhibits excellent cathodic disbondment results (4 mm at 150°F (65°C)). In addition, the coating offers high impact resistance, fast cure, high abrasion resistance, high build (up to 50 mils in one

coat), and is environmentally safe.

Denso manufactures a full line of Protal liquid coatings to meet the demand of the pipeline industry. Protal liquid coatings are the coatings of choice by owners, oil and gas specifiers and contractors across North America.



Top: Removal of old coal tar enamel coating.

Above: Pipe spray coating utilising Protal 7200.

Left: Completed section of pipe.

Corrosion Prevention - Tank Bases

Denso Tank Base Protection in Nuclear Energy Plant

Denso agents in Japan **Kita-Nihon Boshoku CO., Ltd. (KNB)** recently completed a Tank Base Protection project for a Japanese Nuclear Energy Plant. The project involved the protection of two 9.8 metre diameter storage tanks which are used to store light oil.

KNB being a contracting company, with many years experience in the use of Denso material and tank base protection, used the following Denso Products to prevent the tank bases from corroding.

Denso Sylproof was used to prime the concrete plinths. Denso Paste was used to prime the steel tank base whilst Denso Priming Solution was used to prime the steel tank walls.

Densyl Mastic (500 bags in total) was then used to profile all the irregular shapes and ensure a good run-off profile for the wet season.

Finally, 2 layers of Densyl Tape was then applied to the

steel tank base and concrete plinths with 2 layers of Denso Hi Tack Tape being used for the tank walls.

During the project a total of 160 anchor bolts and 172 rib plates were protected on each tank with the Denso system.

The attention to detail and the quality of workmanship on this project was outstanding.



The tank base cleaned and ready for the application of the Denso system.



Densyl Mastic is used to create a smooth profile around any irregular shapes.



Densyl Tape and Denso Hi-Tack Tape completes the ultra-conformable protective system.



Don't forget to get your free copy of the new Denso Cd-Rom...

Visit www.denso.net/cdrom today!

Simple to use CD-Rom containing full details of the extensive Denso range of anti-corrosion and sealing products.

Corrosion Prevention - Lining Sea Water CW Ducts

Archco-Rigidon Linings a Big Success in the Korean Power & Gas Industry

K-CoTech Co., Ltd based in Pusan, Korea has successfully lined several sea water CW ducts, using Rigspray for the Korean Power Industry.

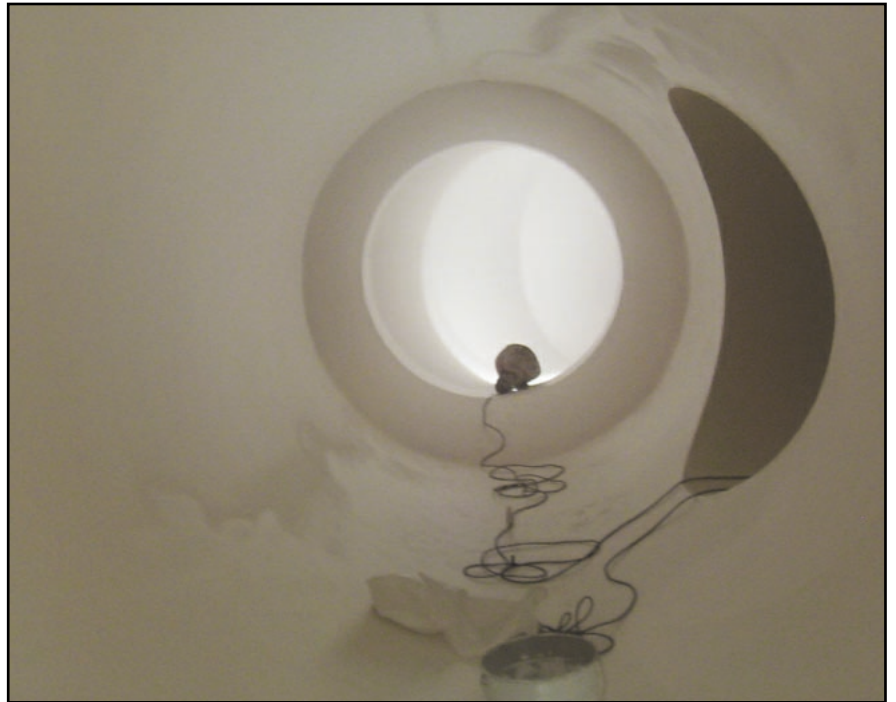
The latest refurbishment project carried out by K-CoTech CO., Ltd involved the Korea Gas Company and the Shinincheon Power Plant. Rigspray was chosen for its excellent permeability and very good abrasion resistance.

The steel substrate was grit blasted to SA 2½ with a minimum blast profile of 75µ. 2 coats of Rigspray was applied using airless spray to a nominal DFT of 1000µ.

The Archco Rigidon products have been so successful in Korea with the Power industry that the Power Industry will rarely consider using anything but Polyester or Vinyl Ester Glass Flake products for the corrosion protection of their CW ducts.



Above: The original lining has reached the end of its life.



Above: During the lining application. Below: The completed Rigspray lining.



Exposed Surface Coating - Protecting Steelwork

Denso Steelcoat System Protects Bridge Structure for 27 Years

Denso Covercoat Systems, now manufactured and sold worldwide as Denso Steelcoat Systems comprise a range of specialised Denso tapes and liquid coatings. Ultra 'surface tolerant' Denso petrolatum and bitumen based steelwork tapes can be overpainted with reinforced liquid Denso topcoats which cure and set to form a very tough outer armouring over the inner Denso tapes.

The Durban Metro pipe bridge (some 2,500m² of steelwork surface area) was prepared 27 years ago by hand

tool cleaning only, before encapsulation with Denso petrolatum H-Tack Tape oversealed with Denso

Acrylic Topcoat.

A recent thorough inspection revealed that this steelcoat system was still providing effective protection despite exposure to very high uv radiation and humid conditions.

To ensure another very cost-effective 25-30 year maintenance free service life, the bridge is scheduled to be recoated with a Denso Steelcoat rejuvenation system. Once again abrasive grit blasting is not necessary and dust and grit contamination of the atmosphere will be avoided.



Durban Metro pipe bridge - Denso Steelcoat Systems have been in use in South Africa since 1978

Exposed Surface Coating

Nuclear Power Station Cranes

Despite the fact that the Denso Steelcoat Systems were applied over failed paint to minimally prepared steel surfaces more than 15 years ago, inspections carried out on two huge gantry cranes situated in Koeberg Nuclear Power Station near Cape Town revealed that totally effective corrosion protection is still being afforded. A 25-30 year maintenance free service life is also expected.



Denso Tape coating and overpainting with Denso Acrylic Topcoat in progress.



The completed Denso Steelcoat protection - maintenance free for 25-30 years.

Corrosion Prevention - Jetty Piles

SeaShield Protection for Milford Haven Jetty Piles

When Chevron took over the former BP storage facility at Milford Haven over twenty years ago, some seventy five per cent of the terminal facilities had been 'moth balled'. Chevron then introduced its Burbury Project for a phased upgrade of the plant and the tanker terminal. This phased upgrade also involved a stage by stage refurbishment of the terminal's steel jetty pile supports.

Work is now underway on Berth 8 where the SeaShield

2000HD marine pile protection system has been chosen to



Above: Initial cleaning underway prior to water jetting.



Above: Water jetting in progress.

Below: Installation of SeaShield 2000HD on one pile is nearing completion.




protect some 100 back to back hexagonal jetty piles. This is being carried out by REDS (Reach Engineering and Diving Services), who are applying the SeaShield system to a vertical height of 9.5m on each pile. On 10 per cent of these REDS are installing an extra smaller SeaShield jacket to act as an inspection port.

Denso S105 Paste was used first to fill the pits and crevices on the piles, then Denso Marine Piling Tape was applied vertically up the seam first and then spirally applied down the pile. The jackets (supplied in two halves) were then fixed into position with stainless 316 fixings and smartband to complete the SeaShield 2000HD system. Denso Marine Piling Tape, a cold applied petrolatum based tape for application under water, is the primary ant-corrosion protection in the SeaShield system and has a proven 30 year track record.