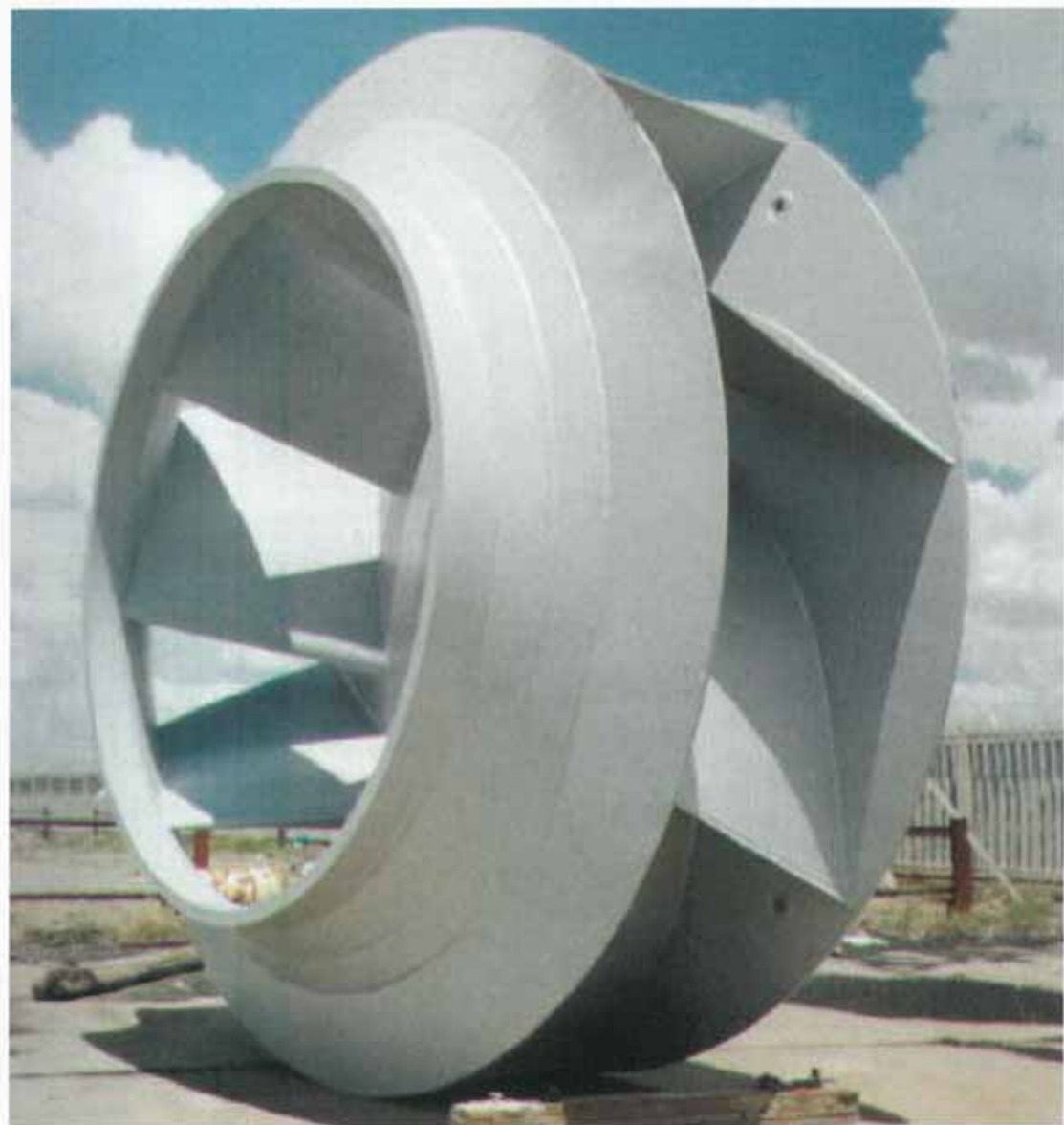


WINN & COALES INTERNATIONAL LTD

**Denso  
Digest**



QUALITY & INNOVATION FROM 1883 INTO THE 21<sup>ST</sup> CENTURY



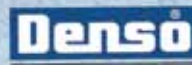
# WINN & COALES INTERNATIONAL LTD

For more advice or information about Denso products, please contact your local Denso company from the list below. You can also fax or mail the form on the back of this publication.

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## Densoband Used On Canadian Bridges

Denso North America Inc., Canada recently completed its largest single bridge project in the Atlantic region of the country using 8mm Densoband

The Westmorland Street Bridge is a 13 span bridge structure connecting commuters from Fredericton, New Brunswick's south shore, across the Saint John River, to the north shore business district.

During the summer of 2002, the Department of Transport

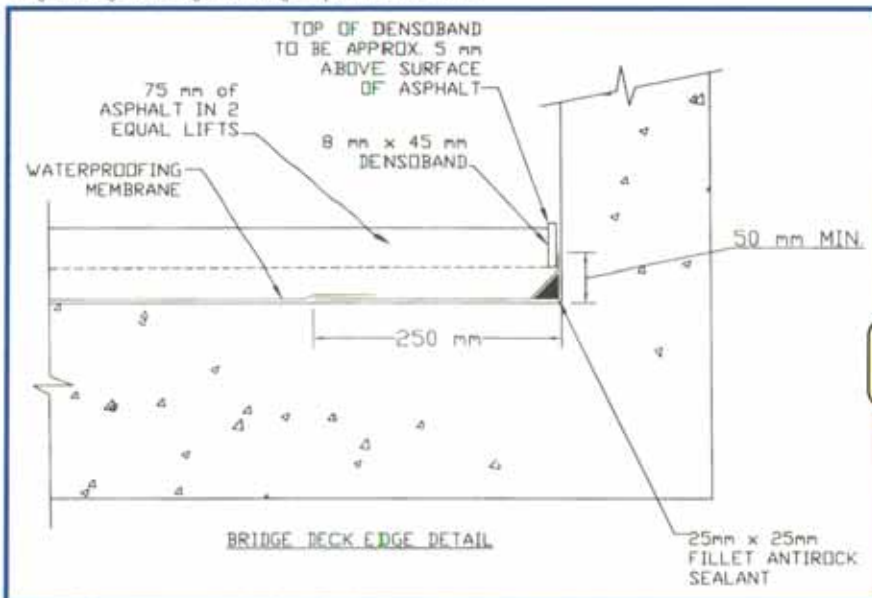
Through the excellent efforts of our local distributor, Arrow Construction Products Limited in Fredericton and the support of the local applicator, Atlantic Underground Services, our Densoband joint sealing compound was installed on all bridge deck edge joints, for a

total of 3,500 metres of material.

This was the largest single project application of Densoband in the Atlantic region to date. The Department of Transport in New Brunswick and regional municipalities throughout the Atlantic regularly use Densoband and Reinstatement Tape in their maintenance departments for many other bridge and road repairs, involving the joint sealing of hot asphalt to concrete, cold asphalt and steel structures on road and bridge surfaces.

The range of road product sealant material manufactured and supplied by Denso North America Inc. has grown over the years to become a major addition to our complete line of anti-corrosion, waterproofing and sealing products and keeps Denso North America in the forefront of this technology throughout Canada.

Bridge deck edge detail diagram showing the position of Densoband.



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

began a rehabilitation program for a major 17,500 square meter deck repair on this 22 year-old structure. The project involved asphalt removal, deck repair, replacement of expansion joints, waterproofing membrane installation, edge sealant installation (Densoband) and a new asphalt topcoat.

Recognizing the need for additional waterproofing protection, design engineers specified Densoband in 45mm x 8mm sizes to control the ingress of water and chlorides (salts) at the curb low points, along both edge joints of the road surface.

Below: Application of Densoband to the deck edge joints in progress.



## NEW Denso 'Skid Resistant' Overbanding Tape Launched

Denso is delighted to announce the introduction of its new Skid Resistant Overbanding Tape as an important addition to its quality range of sealing and jointing products for asphalt or concrete road surfaces.

The new tape has a special textured surface which has been independently tested and proved to exceed the minimum skid resistance value for overbanding materials specified by the Department for Transport.

Designed for sealing cracks or failed reinstatements (up to 5mm wide) on secondary road pavements, use of the new tape prevents the entry of water which will eventually cause more damage and breakdown of the pavement. The special skid resistant surface is an added safety feature which should be welcomed by contractors,



utilities and highway authorities alike. Another quality of the tape that should appeal to the conservation conscious is the fact that it is made from

recycled raw materials.

Application of Denso Skid Resistant Overbanding Tape by the available special applicator machine could not be easier and provides a rapid, instant, flexible seal which can be immediately passed over by traffic.



Simple, fast application of the new Denso Skid Resistant Overbanding Tape by special applicator machine.

Several hundred reinstatements around sewage manhole covers in North Wales have been sealed with the standard Denso Overbanding Tape by K.M. Construction (North Wales) Ltd. The work was for PGS Atlantic Power, who operate the sewage network maintenance contract for Welsh Water in the North Wales area bounded by the Wirral, Whitchurch and through to Holyhead.

## Denso Overbanding Tape Used to Seal Sewage Manhole Covers

Denso Overbanding Tape is conventionally used for the surface sealing of open seams or cracks up to 5mm wide in road pavements on secondary roads. Purchased from Denso stockists W.T. Burden, K.M. Construction say that they found the product gave the following advantages over conventional bitumen methods for sealing around manhole covers: speed of application; vehicle time on roads considerably reduced; clean to handle; product occupies far less vehicle

space which is at a premium. Denso Overbanding Tape consists of a blend of polymer modified bitumen in tape form protected by a disposable release film. Its main benefits include: instant seal against water; fast installation; traffic can pass over immediately; its elastic properties accommodate thermal movement.

One of the Denso Overbanding Tape sealed reinstatements.



## Corrosion Prevention - Coating and Lining Tanks

# Denso Protection For Anglo American Corporation Tanks

When the Anglo American Corporation decided it was time to apply a corrosion prevention coating and lining system to their storage tanks they contacted Denso South Africa (Pty) Ltd for advice on suitable Denso systems.



Above:  
The tanks after hand tool cleaning only.

With attractive cost savings available due to the minimal amount of surface preparation required they finally chose the Denso Steelcoat 700 System for all external areas of the tanks. Only requiring surface preparation to Swedish Standard St2, the main component of the Steelcoat 700 system, Denso S.T. Epoxy, was a sensible choice offering long-term protection for the exposed metal surfaces.

For protecting the internal tank linings, Archco-Rigidon Rigspray was chosen for its excellent permeability and very good chemical and abrasion resistance.

The Anglo American Corporation were so pleased with the finished job that they decided to coat all of their ventilation fans with Rigspray as well (see cover picture).



Right:  
The completed internal and external tank protection.

## Corrosion Prevention - Exposed Process Plant Pipework

## Steelcoat 400 Brings Home The Bacon

Darling Downs Bacon is located at Toowoomba in Queensland's Darling Downs region and as the name suggests manufactures bacon, hams and a large range of associated small goods.

Upkeep of the painted surfaces has been on an ongoing process due to the aggressive environment and the need to present a pristine condition for the manufacture of food products.

After promotion and demonstration of the Denso Steelcoat 400 System, Darling Downs Bacon took the option of cladding some of their process pipes with the system overcoated with Acrylic Topcoat for pipeline identification purposes. The success of the initial application and the confidence in the product that was generated has led to the Steelcoat 400 System being adopted as the preferred system for prevention of corrosion and has now been applied to structural steework as well as pipework.

A significant advantage of the Denso system is that it can be applied to areas where there is a

minimum clearance around the structure. These places would normally suffer from ongoing corrosion attack as alternative protection systems cannot deal with them properly.



Above and below:  
Denso Steelcoat 400 protects the exposed process pipework at Darling Downs Bacon.



## Corrosion Prevention - Projecting Nuts and Bolt Threads

## Radolid Caps Used for Mounting Bolt Protection

Contractor Concrete Protection and Repair, recently concluded one of the largest Radolid Cap projects in Christchurch, New Zealand. Due to structural damage to the pre-stressed concrete slabs that form the base of Cashin Quay, Opus International Consultants decided to add steel strengthening members to the underside of the wharf.

Asset owner Lyttleton Port Co selected Radolid bolt caps as the best solution to protect the nut and projecting thread of 400 separate mounting bolts that

were used to secure the steel strengthening members. Because there is no set length of projecting thread, Denso specified a telescopic Radolid cap

that could be adapted to a range of thread lengths. As added insurance Denso also supplied SeaShield Primer (Denso Paste S105) for application to the thread and nuts under the Radolid caps.

Not long after the work on the wharf was completed it was put to the test by a severe storm. Pounding waves sprayed up through the strengthened wharf slabs onto the deck but as expected the Radolid caps remained completely undisturbed.

## Corrosion Prevention - Exposed Pipe Crossings

## Denso Steelcoat 400 Protection For Pipe Crossings

Hamilton City Council have refurbished 12 above ground pipelines using the Denso Steelcoat 400 System. The Steelcoat 400 system was chosen because of its ability to provide a long service life without the need for abrasive blast surface preparation.

The specialist contractors for this project were GMR Holmac (a licensed Denso Steelcoat Applicator). GMR Holmac first cleaned the substrate to Swedish Standard St2 (hand tool surface preparation only - no abrasive

blasting was required). Once surface preparation was complete Denso Profiling Mastic was used to contour all fittings and irregular profiles. This was followed with an application (by brush and roller) of

*Application of the Denso Steelcoat 400 System.*



Picture foreground shows the pipe condition in some areas prior to cleaning to Swedish Standard St2.

Denso Bitumen Penetrating Primer. The primed surface was then wrapped with a barrel application of Denso Ultraseal Bitumen Membrane Tape. To fully seal the system and to provide UV protection it was then overcoated with Denso Acrylic Topcoat (environmental green).

The fully installed system will provide a minimum service life of twenty years allowing the Council to protect the value of their asset while also protecting the environment.



Above: Each projecting thread and nut was protected with Denso SeaShield Primer (Denso Paste S105) before receiving its Radolid cup.



Opposite: Complete thread and nut protection from the elements.

## Tokstrip Sealant Used In Rainwater Attenuation Tank

In order to minimise any potential flood risk from heavy rain, contractors O'Halloran and O'Brien, who are carrying out groundworks for Linden Homes' development of new housing at Maidstone, have constructed an attenuation tank to store rain water and release it slowly as required.

They worked in conjunction with Brierkrete, who supplied 26 precast concrete culvert sections for the construction of the attenuation tank. The precast sections have a V-shaped invert and are 3.3m wide and 1350mm at the bottom of the 'V'. To seal the individual sections, Brierkrete specified Tokstrip flexible jointing strip.



Tokstrip has gained an enviable 40 year track record of use within the construction industry. Under compression it deforms through the joint to provide a flexible watertight seal.



Above: The Tokstrip jointed attenuation tank starts to take shape.

Below: A Brierkrete precast culvert section is maneuvered into position.





## Corrosion Prevention - Exposed Cooling Tower Piping

## Denso Petrolatum Tape Protects Cooling Tower After 25 Years

The Denso Petrolatum Tape System has provided external corrosion protection for over 25 years on the exposed piping at the American General Building in Houston, TX. After the original paint coating failed within a few years of operation, the Denso Petrolatum Tape System was applied in 1977 and is still providing excellent corrosion protection.

The tape system has exceeded the life of the cooling tower that it was applied to. The original cooling tower is being replaced with a new tower that is more efficient. An inspection of the pipe revealed the surface underneath the tape to be in excellent condition with no corrosion. Due to the longevity of the Denso product the



engineers specified the Denso Petrolatum Tape System to protect all the piping, H-beams and valves on the new cooling tower.

There is increased concern about the external corrosion protection of the piping and valves because of the highly corrosive environment. The continuous exposure to water, chlorine and other corrosive chemicals limit the life of a typical paint coating to less than three years. Engineers and maintenance personnel choose the Denso Petrolatum Tape System as it has proven to be cost effective and provide long-term corrosion prevention. Furthermore, it is easy to apply and does not require abrasive blasting.

The Denso Petrolatum Tape System consists of petrolatum based primer and tape. The tape is composed of a non-woven synthetic fabric carrier that is impregnated with a petrolatum compound and inert siliceous fillers. Denso developed the original petrolatum tape in 1929 and since has protected millions of square feet of steel in a variety of highly corrosive environments.

Above left: An inspection of the pipe revealed the surface underneath the tape to be in excellent condition with no corrosion.

Left: The Denso Petrolatum Tape System, applied in 1977, is still providing excellent corrosion protection.

Denso North America Inc. USA recently introduced a new self-adhesive membrane for ceramic tiling called Quick-Tile. The product, designed to replace conventional tiling adhesive by taking away the mess and long drying times before grouting, has captured the imagination of American 'DIYers' and is currently in great demand.



The following letter was recently received from one very satisfied customer...

## Another Satisfied Customer...

Dear Sirs,  
Just could not let the day go by without letting you know how great and how easy it was to tile with your 'Quick-tile process'. We had to set about 105 tiles vertically on a kitchen wall. we put it off for 3 or 4 months because we dreaded the process. We found your product by chance in a catalog and we recommend it to all who want an easy fix to a messy problem. Thanks for being so creative and for making your product available in the United States. Many Thanks!!!

George Taylor  
Lakewood, Ohio 44107-6213

## Corrosion Prevention - Lining Cooling Water Pump

## Archco-Rigidon Lining For Nuclear Power Station Pump

The Coatings Division of Weir Engineering Services, based at Heysham near Lancaster, have recently relined a major cooling water pump unit for a nuclear power station using Archco-Rigidon 423D and 523D corrosion resistant linings.



It is the latest refurbishment project carried out by Weir Engineering's Coatings Division for several nuclear and conventional power stations using the Archco-Rigidon range of glass flake vinyl ester coatings.

The company is involved in relining and other refurbishment work on all types of liquid handling equipment and tanks for a wide range of customers, including the Severn Trent Water Authority. This is a tribute to the proven track record of the Archco-Rigidon range of linings for long life corrosion and erosion resistance.

*A Weir Engineering Coatings Division technician applying one of the Archco-Rigidon linings.*

**ARCHCO**  **RIGIDON**  
Resistant  Materials

## Corrosion Prevention - P1 Pipe Joint Protection

## Denso Protection For Vauxhall fire Main

A Denso Tape system has been used at the Ellesmere Port Works of Vauxhall Motors to give protection to new pipework forming part of the existing fire main.

The main contractors, McTay Engineering, have installed a new water tank and some 40 metres of new pipework which is temporarily connected to the existing fire main pipework. It is planned to replace this in the near future with a two new 14in and 10in water mains feeding back to the pump house.

Sub contractors Deborah Services applied the Denso Tape system in accordance with Civil Engineering Specification for the Water Industry, P1 Specification, on all buried sections of the

pipework and to the joints and valves on above ground sections. The system consists of Denso Paste followed by Denso Hi-Tack Tape, overwrapped with Denso PVC Tape.

Below: One of the joints in the new pipework awaiting the Denso Tape system protection.



## Corrosion Prevention - Exposed Gas Pipeline

## Denso Steelcoat Protects Transco Gas Main

A 50m over ground section of a 600mm Transco gas main in Rotherham has been given long-term protection with Denso Steelcoat 700 System comprising Denso S.T. Epoxy and Weathershield liquid coatings in a recent maintenance programme.

There are several historical reasons for this section of the gas main being above ground. It is near a canal and a railway embankment, which has led to continuous wet soil conditions. It also runs close to a sheet metal works where there are several culverts and pits in the factory grounds.

When Transco drew up its recent maintenance programme, a long-life coating system was specified. SITE Coatings Ltd of Doncaster, who won the contract to carry out the renovation work on behalf of Transco, specified

the Denso system. After mechanical wire brushing to remove all loose paint coatings, SITE Coatings applied two coats of Denso S.T. Epoxy followed by two coats of Weathershield.

Denso S.T. Epoxy is a mastic coating with exceptional adhesion properties. It can be spray or brush applied to deliver long-term protection in a wide range of corrosive environments. Denso Weathershield is an acrylic based topcoat to give extra protection and to prevent chalking after exposure to sunlight.



Denso Steelcoat 700 System protects the exposed Transco pipeline.

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Front cover: One of Anglo American Corporation's ventilation fans coated with Archco-Rigidon Rigsproy - (see story page 5).

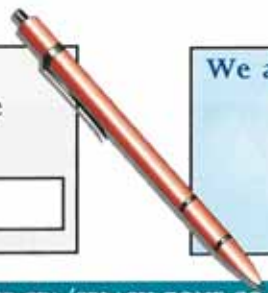


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## Would you like more information about our long-term corrosion prevention and sealing systems?

If you are interested in any of the products featured in this issue of the Denso Digest please tick box:

Please indicate page number(s):



We also offer tried and tested systems to deal with all the problem areas listed below, simply 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.
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### 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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