



THE QUEEN'S AWARDS  
FOR ENTERPRISE:  
INTERNATIONAL TRADE  
2010



**The Queen's Awards for Enterprise:  
International Trade 2010, Recognises  
Winn & Coales International for  
Growth in World Sales**

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





# WINN & COALES INTERNATIONAL LTD

For further information on our products and their suitability for your particular project, please contact any of the Denso companies listed below:

## WINN & COALES (DENSO) LTD

Denso House, Chapel Road, London SE27 OTR, England  
✓ Anti-corrosion and sealing systems

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



## ARCHCO-RIGIDON

Denso House, Chapel Road, London SE27 OTR, England  
✓ Corrosion resistant linings

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## DARTFORD COMPOSITES LTD

Unit 1, Ness Road, Erith, Kent DA8 2LD  
✓ Manufacture and repair of FRP panels for cars and trains

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## PREMIER COATINGS LTD

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✓ Membranes and corrosion protection systems

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LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

## The Queen's Awards for Enterprise: International Trade 2010, Recognises Winn & Coales International for Growth in World Sales



THE QUEEN'S AWARDS  
FOR ENTERPRISE:  
INTERNATIONAL TRADE  
2010



**Winn & Coales International Ltd, was honoured on the 21st April with a Queen's Awards for Enterprise: International Trade 2010, recognising its growth in world sales over the past few years.**

The award announced on the Queen's birthday is the result of the combined efforts of the company's UK, based staff, subsidiary companies and global network of agents offering proven and cost-effective solutions for its customers corrosion and sealing related problems.

Winn & Coales International, established in 1883 remains an independent company and celebrated its 125th Anniversary in 2008. The company's Denso anti-corrosion and sealing systems have been used to protect buried and sub-sea pipeline, exposed steelwork and storage tanks in highly corrosive environments worldwide for over 80 years.

Chairman David Winn OBE said " Winning this award recognises the amazing success we have achieved in establishing our products reliability and quality across the world despite recessionary times. It is a also a reward for all of the effort and finance we have continually invested in developing new innovative products to solve our customers ever changing needs".

Pictures:

Top left: Chairman David Winn OBE with HRH Princess Alexandra during the company's 125th Anniversary celebrations in 2008

Bottom Left: An International Sales Meeting with key staff from the company's eight subsidiary companies.

Top Right: Subsidiary Denso North America Inc opens a new facility in Houston Texas USA in 2007.

Bottom Right: Director Chris Winn (left) and Chairman David Winn OBE Opening the new Houston Premises.

**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



LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY



## Coating Pipe Joint Welds with Denso Epoxy in Sub-Zero Temperatures

In many parts of the world coating pipelines in the field in below freezing temperatures is not an issue; this is not the case in Canada and in Western Canada five months of the year typically average below freezing temperatures. During these five months many large diameter pipelines are built which require protective coatings that are applied on site and Denso Protal is a coating of choice.

Properly applying epoxies in cold weather is different than applying them at warmer temperatures due to, among other things, the curing temperature required. In the case of 7200, a minimum cure temperature would be 5 degrees Celsius at best. At an atmospheric temperature of 5 degrees Celsius and on steel at the same temperature, it may take a minimum of 24 hours before the product is cured

enough to handle which sometimes is not concurrent with the schedule of the pipeline construction. In circumstances where the cure time of the epoxy coating needs to be accelerated the addition of heat from an outside source is commonly used. Before we continue on with that subject it is important to remember:

Protal 7200 is a preferred coating because of a few good reasons:

1. Good long track record.
2. Performs under high operating temperatures.
3. A great deal of independent test data.
4. Ease of application/Contractor friendly.
5. Strong technical field support and customer service.
6. Competitive Pricing.

In Canada pre-heating the pipe is the most commonly used method to speed up the cure time of the 7200 and is typically done by two methods which are outlined below with the pro's and con's of each.

### Propane Torch

A portable propane tank and "tiger" torch is used to blast a flame onto the bare pipeline steel increasing the temperature prior to hand applying the 7200.

#### Pro's

- Inexpensive
- Relatively light weight and easy to handle
- Technically easy to operate

#### Con's

- Fire hazard
- Inconsistent heating of the pipe
- Potential to burn the existing mainline coating
- May produce rust blooms on the prepared surface (SSPC SP-10 - NACE 2 or SIS 05 59 00-1967 Sa 2½ is required)

Propane torch.







## LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY



Setting up a heat induction coil

### Heat Induction Coil

An induction coil has two main components, a power supply and a set of special cables through which a high-frequency alternating current is passed creating an electromagnetic field. The cables are arranged in a special steel casing which is clamped over the pipe. The power supply units usually have an output of 120 kVA. The electromagnetic field excites the molecules of the steel raising its energy level and causing the steel material to heat from within.

#### Pro's

- No open flame
- Efficient
- Heats the pipe consistently and evenly

#### Con's

- Expensive
- Bulky - requires it's own separate vehicle
- Level of technical knowledge to operate
- Mechanical - can break down

Both methods are used although on larger projects induction coils are used almost exclusively.

By pre-heating the steel it allows the curing time to change from hours to minutes. The Protal 7200 is immediately applied after heating the pipe and after verifying the desired temperature has been achieved by using a temperature probe. Pre-determined pre-heat

temperatures range from 50-80 degrees Celsius depending on the current ambient temperature and wind conditions, temperatures too low or too high can damage the epoxy or cause it to cure improperly.

Denso works diligently with contractors, inspectors and owner companies at a field level to provide a QA/QC instrument and is instrumental in ensuring the 7200 will perform to the high level of excellence that it is renowned for.

### Project Summary

**Product type:**  
Buried Steel Coating

**Country:** Canada

**Location:** Not specified

**Object:** Pipeline

**Problem:** Corrosion Prevention

**Product**

**solution:** Denso Protal 7200





LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY



Above and Below: A car ferry approaching the new berthing structures located at McInroy's Point, Firth of Clyde.

## SeaShield Protection for New Clyde Berthing Structures

The SeaShield 2000 FD System was specified by consultants Arch Henderson LLP to give additional protection to a number of legs on the new berthing structures constructed by George Leslie Ltd for Western Ferries (Clyde) Ltd at McInroy's Point, Gourock and at Hunter's Quay, Dunoon. The scheme is part of an upgrade by Western Ferries to the vessel loading facilities at their terminal sites on the Firth of Clyde.

The berthing structures interface the vessels with floating linkspans that move up and down with the tide, thereby facilitating traffic movement on and off the ferries. The construction and assembly of the tubular pile legs resulted in exposed areas within the tidal zone that did not receive adequate protective coating. The Denso SeaShield system was specified by Arch Henderson to overcome this problem.

The SeaShield 2000 FD was installed by Clyde Commercial Diving Ltd, beginning with the application of Denso Paste S105 overwrapped with Denso Marine

Piling Tape. To complete the system HDPE Jackets were

Project Summary	
Product type: Sub Sea / Splash Zone Coating	
<b>Country:</b>	Scotland
<b>Location:</b>	McInroy's Point
<b>Object:</b>	Steel Legs
<b>Problem:</b>	Corrosion Prevention
<b>Product solution:</b>	SeaShield 2000 FD

bolted together around the tape wrapped pile legs.







LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

# Archco-Rigidon Lining used on Concrete Neutralisation Sumps, Pearl GTL Project - Qatar

**Pearl GTL is a gas to liquids (GTL) project based in Ras Laffan, Qatar. It converts natural gas into liquid petroleum products. It is the largest GTL plant in the world.**

The Pearl GTL will have a capacity to convert 1.6 billion cubic feet of natural gas per day into 140 thousand barrels per day of petroleum liquids and 120 kilo barrels of oil equivalent (730 TJ) into natural gas liquids and ethane.

Archco Rigidon 623D and 603D systems were successfully utilised to line two concrete neutralisation sumps and related manholes with an approximate overall area lined of 4,000 square meters. The systems were hand and roller applied to give optimum corrosion / erosive protection and flexible strength to the floor walls and ceiling.

The Archco Rigidon 623D System is a heavy duty lining formulated from vinyl ester resin with chopped strand glass fibre mat. The lining is applied to suitably prepared concrete substrates to a nominal thickness of 3mm comprised of: A vinyl ester primer; a silica filled 623D resin base coat approximately 1.5mm thick; two layers of 450gm/m<sup>2</sup> chopped strand glass fibre impregnated with 623D resin; a layer of surface tissue and 623D resin; a final sealer coat of 623D waxed resin topcoat.

Archco Rigidon 623D and 603D have a proven track record of long-term protection in a wide variety of corrosive / erosive environments.

## Project Summary

Product type:  
Linings for Steel & Concrete

**Country:** Qatar  
**Location:** Ras Laffan  
**Object:** Concrete Sump  
**Problem:** Corrosion Prevention  
**Product solution:** Archco-Rigidon 623D & 603D



Above and Below: Archco-Rigidon 623D and 603D linings were applied to the floors and walls of the concrete neutralisation tanks. The Archco-Rigidon 603D lining was used on the manhole covers.



Below: The ceiling of the tanks were lined with the Archco-Rigidon systems as well.

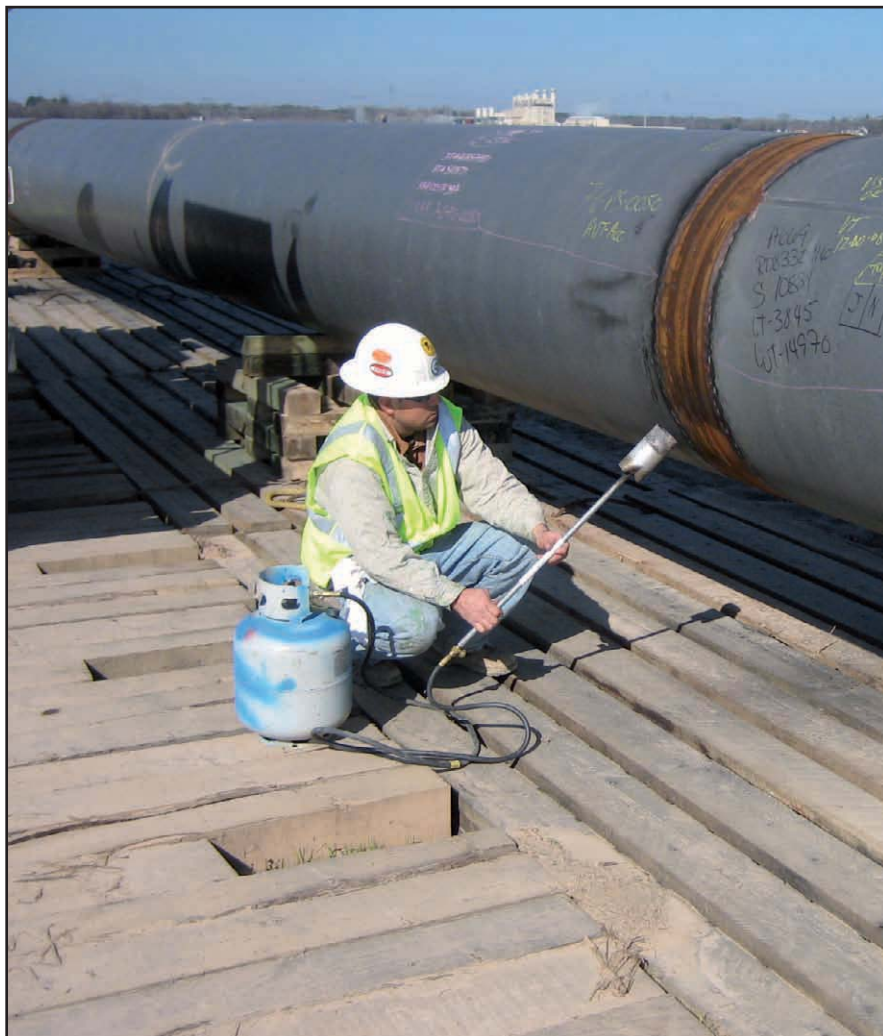




LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

# Protal 7200 Protects All Weld Joints on Major Gas Transmission Pipeline Project

The Kinder Morgan Mid-Continent Express Pipeline is a recently completed 42 inch and 36 inch 500-mile pipeline in which the girth welds, HDD weld joints and tie-in joints were protected with Protal 7200. Protal 7200 was selected as the coating of choice for this project due mainly to its versatility to be used in various applications. The product has outstanding physical properties and fast cure ability, which allowed the contractors to use the same coating for the protection of all weld joints including girth welds, tie-ins and bore joints.



## Project Summary

**Product type:**  
Buried Steel Coating

**Country:** United States of America

**Location:** South/Southwest USA

**Object:** Weld joint coating

**Problem:** Corrosion Prevention

**Product**

**solution:** Denso Protal 7200

Opposite pictures:

Top: Applying Protal 7200 at 50 mils on 42 inch diameter joint for a directional drill.

Bottom: Applying Protal 7200 by brush at 25 mils on a 42 inch diameter girth weld.

Protal 7200 is a two-part, 100% solids epoxy coating that can be applied in one coat up to 50 mils. The coating exhibits excellent cathodic disbondment results of 4 mm @ 150°F (65°C). Another benefit is high impact and abrasion resistance for directional drill applications. Furthermore, the extremely fast cure makes it ideal for tie-ins and holiday repairs. Test results with independent labs and oil & gas companies have proved to be superior to other liquid coatings.

Unlike FBE, which requires expensive and heavy equipment, Protal 7200 only requires a brush or roller to apply. The costly risk of downtime due to equipment failure is eliminated. Due to these cost savings, Protal 7200 is ideal for a variety of field or shop applications including girth welds, tie-ins, HDD applications, station piping, fittings and repairs to FBE.

Left: Pre-heating of weld joint prior to blasting.





LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY







LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

# Denso Steelcoat 400 Protects Desalination Pipeline

The WDA Desalination Pipeline project was completed in two sections, underground and above ground.

The Steelcoat 400 System was used to protect the 700 metre above ground pipeline. The System consisted of Penetrating Primer and Bitumen Mastic, which was then wrapped with Ultraseal Tape and over coated with 2 coats of Acrylic Topcoat.

Once trimmed to a manageable size the Ultraseal Tape was applied over the primer and mastic. Two coats of black Acrylic Topcoat were

applied once wrapping was completed.

The system chosen to protect the 700 metre long underground pipeline was Primer D, Bitumen Mastic, Ultraflex 1500, then over wrapped in PVC Self Adhesive Tape.

Both systems were chosen keeping in mind that the customer required that the pipeline be easily maintained and monitored.

## Project Summary

Product type:  
Exposed Steel Coating

**Country:** Australia  
**Location:** New South Wales  
**Object:** Weld joint coating  
**Problem:** Corrosion Prevention  
**Product solution:** Denso Steelcoat 400 System

The Steelcoat 400 system being applied to the pipeline:

Top left: Application of the Ultraseal Tape  
Bottom Left: Applying the Denso Acrylic Topcoat.  
Below: The above ground section of pipeline.







LEADERS IN CORROSION PREVENTION & SEALING TECHNOLOGY

## Archco-Rigidon Linings Protect Sport & Aquatic Centre Bunds & Filters

Once a year, the Melbourne Sports and Aquatic Centre closes down for the relining of the bund areas and filters.

All bund areas are coated using Archco Rigidon 723D. Roejen Services take care of this re-lining, with Universal Blasting applying the coatings. Denso have been supplying Archco Rigidon 723D for this application for many years now, and will continue to work with Roejen Services into the future.




### Project Summary

Product type:  
Linings for Steel & Concrete

**Country:** Australia  
**Location:** Melbourne  
**Object:** Bund areas / filters  
**Problem:** Corrosion Prevention  
**Product solution:** Archco-Rigidon 723D

Top & Bottom: Bund areas protected with Archco-Rigidon 723D.



**ARCHCO RIGIDON**  
Resistant  Materials