FIFTY YEARS

- Fifty Years Maintenance Free Corrosion and Erosion Protection for Steel and Concrete Structures.

- Is It Possible?

- Is it a Dream ?

- Could it be a Reality ?

ACOTHANE

Thirty Years Proven Performance

ACOTHANE

- HISTORY AND DEVELOPMENT

- Solvent free polyurethanes were being researched and developed in the 1970's.
- Acothane development commenced in a small UK laboratory in 1978 with the original formulation coming to market in 1980.
- Acothane brand name was first registered in 1984.
- Since this time it has proven to have superior performance over conventional and high performance surface coating systems as illustrated in the following presentation.

Chemical and Allied Industries

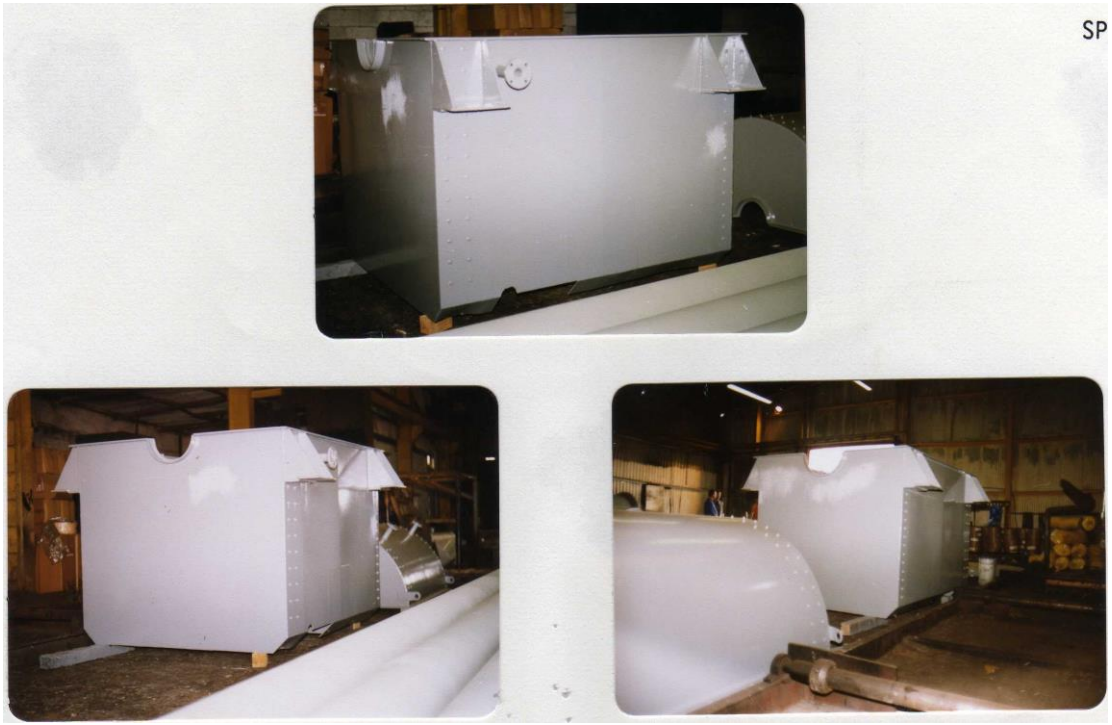
A wide variety of applications have been carried out including tank lining for water and effluent, secondary containment, hopper and bunker lining for coal , coke and minerals and as anti-skid deck and floor coatings.

Chemical Process Tanks

Coated internally and externally with Acothane

Bund area also lined for secondary containment

Potash Process Vessels



Acothane spray applied internally to 2mm film thickness for high abrasion resistance. 1mm external

Bridges & Structural Steel

- An extensive test programme was initiated by British Steel Research Centre Swinden Laboratories in the early 80's towards finding a coating system to extend the maintenance free life of then currently available Department of Transport paint systems for steel bridges.
- The Waterside Bridge was coated and installed in 1986/7 and now has a proven twenty eight years maintenance free track record.
- Over 200,000 m2 of steel bridge structures were coated with Acothane between 1987 and 1994.

The Waterside Bridge

Inspected in 2007, twenty years in service, the conclusion from the inspection report stated

“The elastomeric solvent free polyurethane would be protecting the steel work in another twenty years time”

Comment from the client “The spray applied coating is as sound as the day it was applied”

Bridge Maintenance

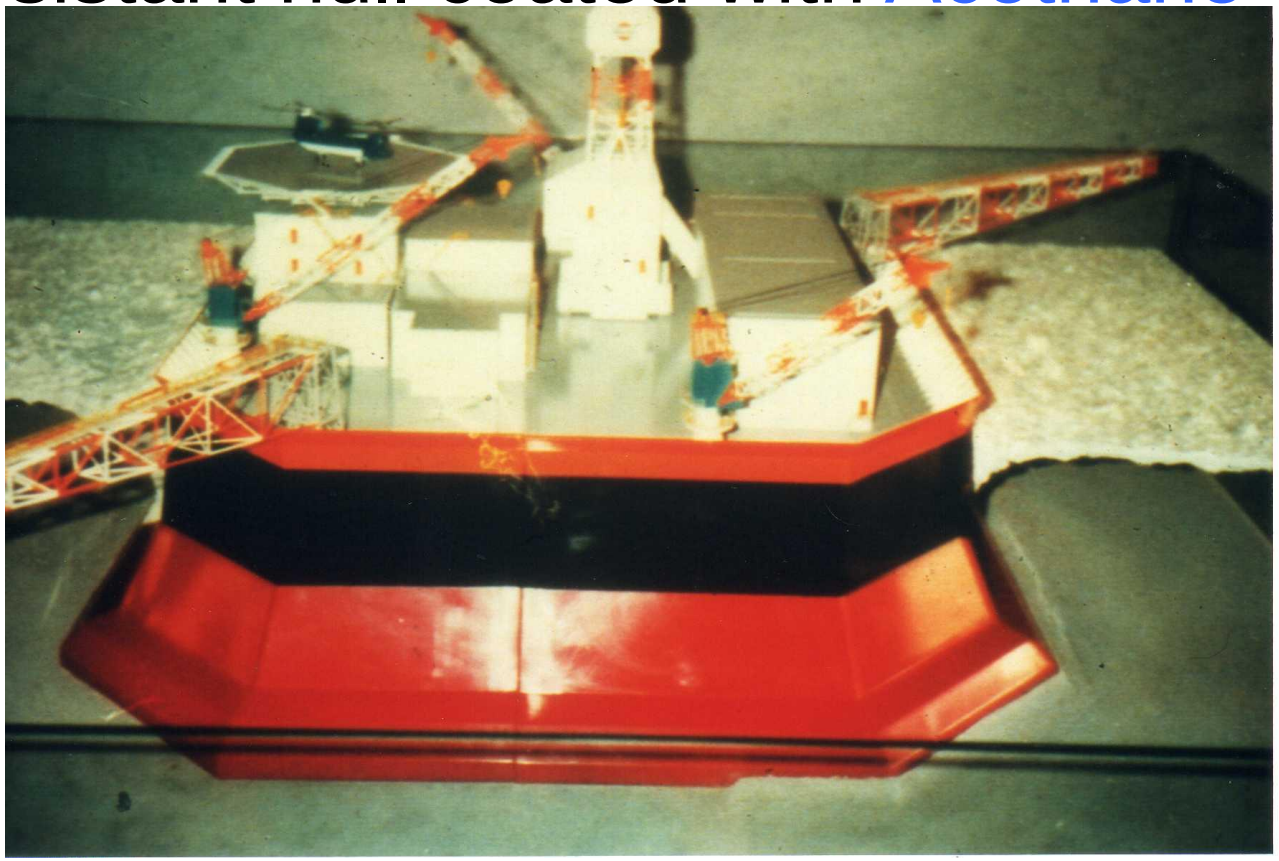
- Corten steel pipe bridge and sewer pipe fully protected since 1994
- Erskine Bridge service way panels fully protected since 1984

Marine

- Work carried out in the 70’s and 80’s on ice breaker vessels for the US Coast Guard gave encouraging results with superior performance and longer service life over conventional high solids epoxy coatings.

Mobile Arctic Caisson Rig

Ice resistant hull coated with Acothane



Marine Sea Defence

- Larsen piles and complete jetty structure fully protected and maintenance free for over twenty five years

Off Shore North Sea

- Extensive work was carried out in the late 70’s and 80’s where Acothane was applied to splash zones, conductor tubes and risers, sub sea housings and pipelines and as anti skid deck coatings.
- Following proven performance new projects are under way for jacket and top side protection.

Splash Zones

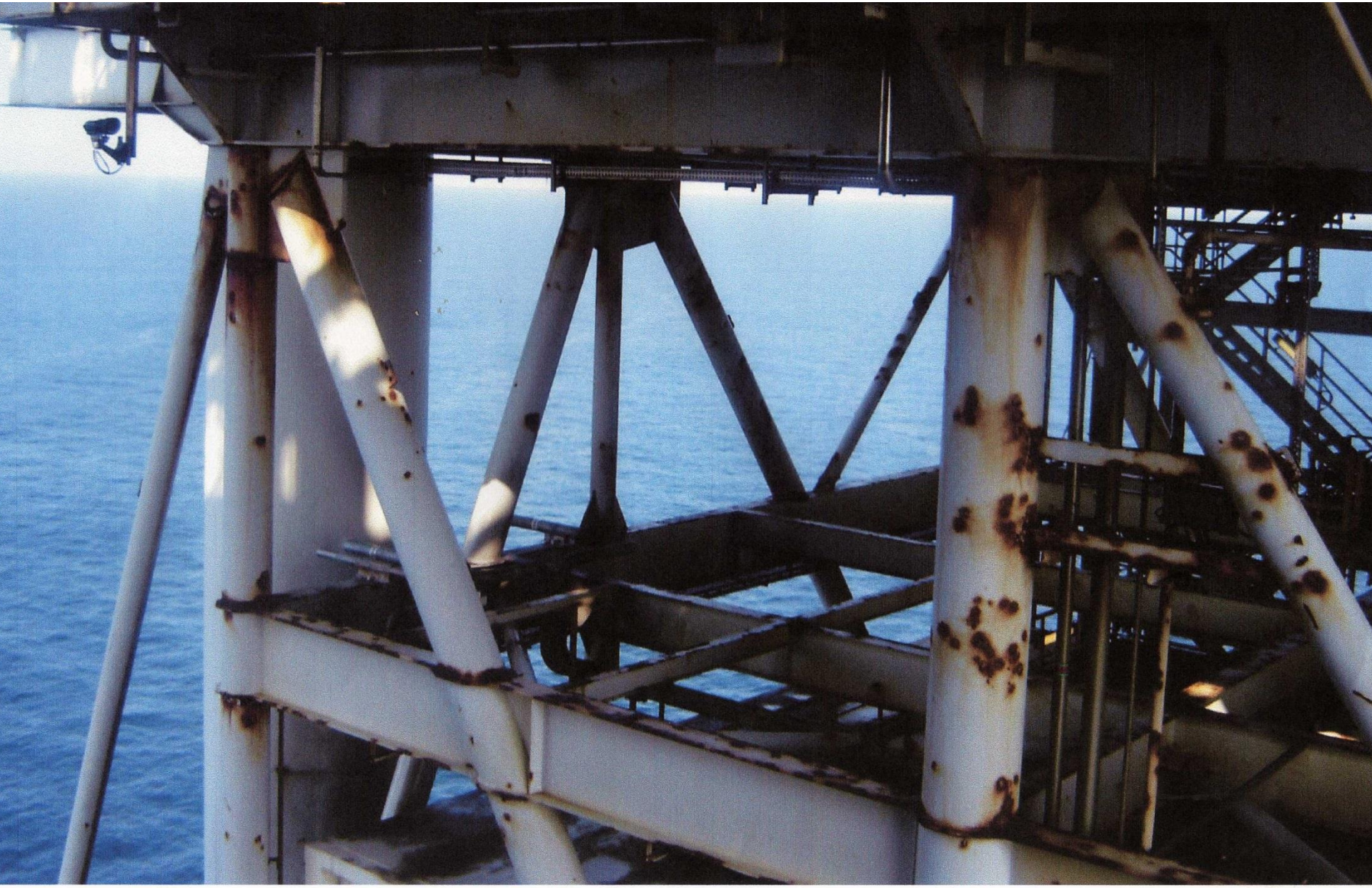
Shell Brent Alpha splash zones spray coated on station in 1984 with 2mm Acothane

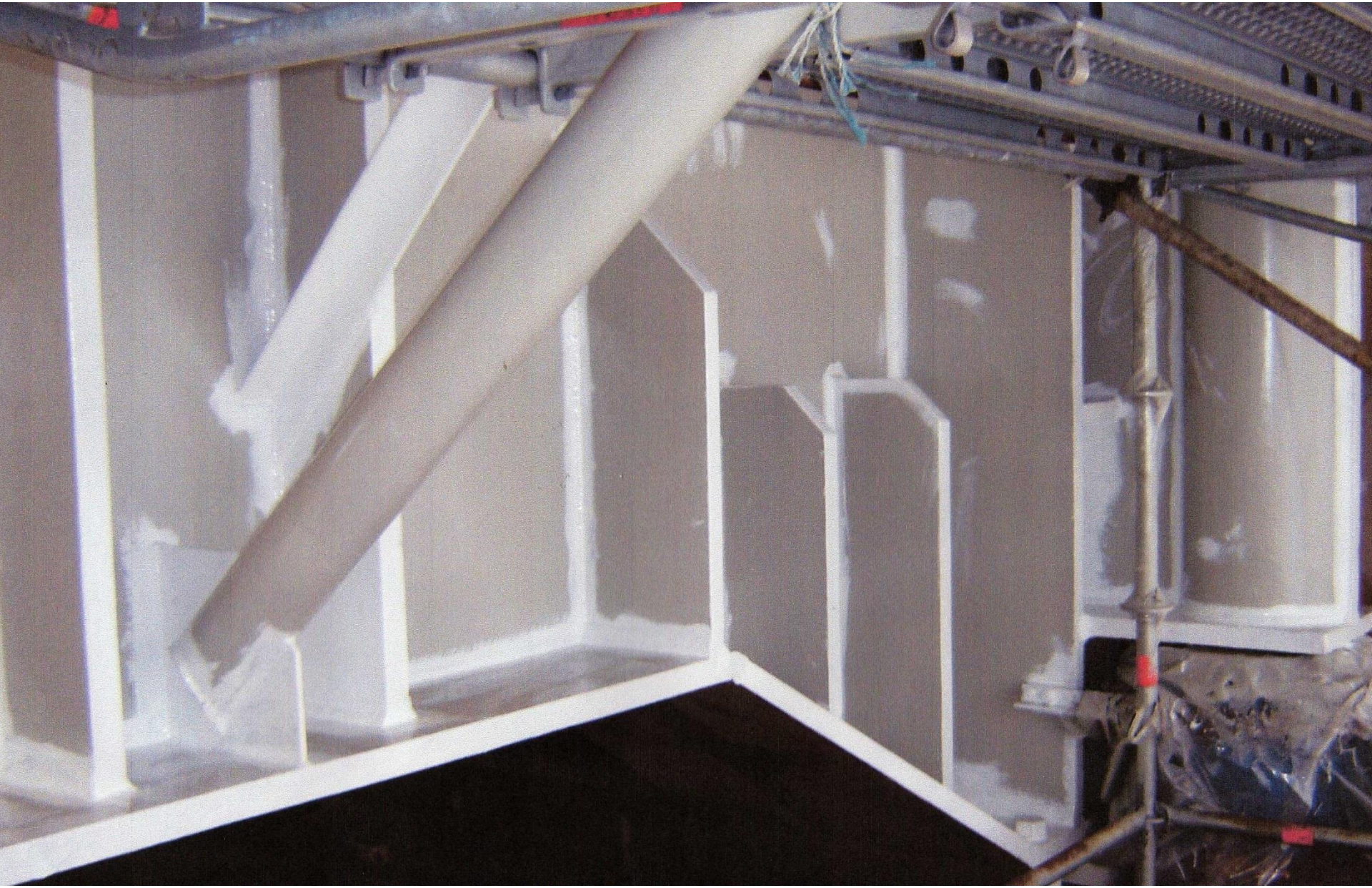
Sub Sea Protection

Total Oil Marine / BP Engineering Sub Sea Isolation System fully coated with Acothane

Assett Integrity In The North Sea

- In October 2007 the HSE published it's KP3 report following a three year project which looked in detail at the integrity management on some 100 installations in the UK Continental Shelf.
- The report indicated that the majority of installations inspected were generally in a poor state.
- Acothane is now addressing this situation

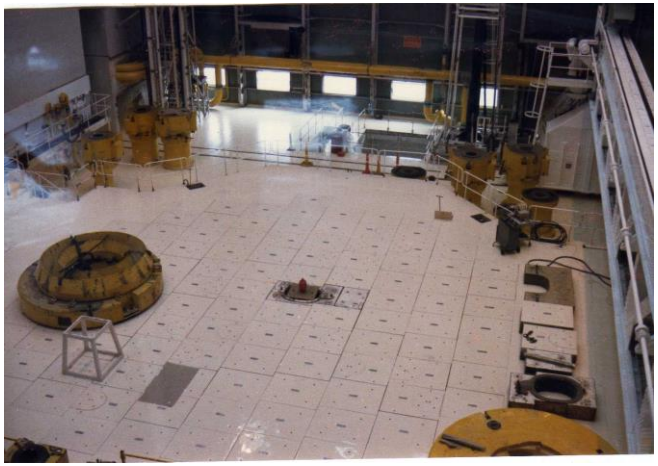




Power Generation

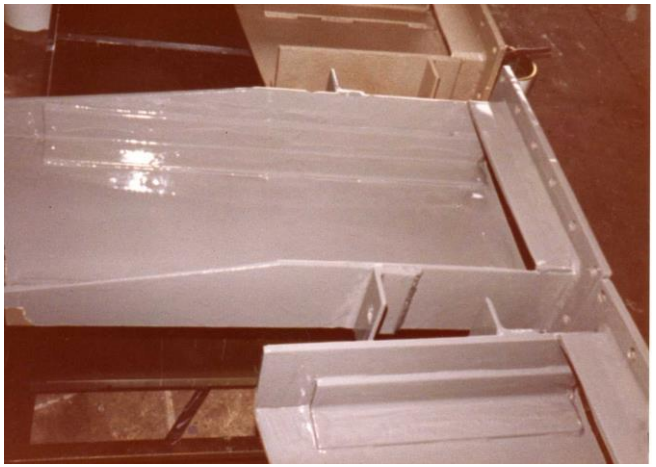
- Successful track record exists in both conventional and nuclear power stations since 1980.
- Applications include condenser boxes and tube end plates, water tanks, pipes and valves, filter screens and beds, cooling ponds and as a complete encapsulation for concrete structures.

Nuclear Pile Cap



Pile Cap in a Nuclear Power Station fully coated with Acothane for complete encapsulation

Fly Ash Slurry Chutes



Steel chutes with very high wear rates caused by abrasive fly ash slurry and serious corrosion deterioration fully protected with Acothane at 1mm to 2mm film thickness.

Concrete Protection

Report No : 014H/81/2295

DUBAI DRY DOCK

CONCRETE PROTECTIVE COATINGS

PHASE II – LONG TERM PERFORMANCE EVALUATION

A major test programme was run by Taylor Woodrow during 1980 – 1982 to establish a coating specification for the Dubai Dry Dock.

The requirements were :-

(1) High adhesion to concrete
(2) Ability to fully seal the concrete and fill all blow holes
(3) Provide an adequate barrier over the concrete
(4) Resist the ingress of chloride, oxygen and water to prevent corrosion of reinforcing bars
(5) Ability to accommodate concrete movement and bridge cracks of 2mm without reflective cracking in the coating.
(6) High impact resistance under heavy impact loading
(7) Fast and easy application under prevailing site conditions
(8) Fast and easy repair system should subsequent damage occur

From over one hundred coatings selected for Laboratory tests three only were selected for on site evaluation. Solvent Free Polyurethane was the only coating which performed at site trials and was selected for coating the sills, keel blocks and thrust blocks in 1982.

Early 1993 an examination of the coating was carried out on site and was found to be in excellent condition with minimum impact damage which was repaired with Solvent Free Polyurethane Mastic Repair Kit.

Subsequent visit February 2003 confirmed the coating still to be in place and performing well with zero chloride diffusion over a twenty year service life.

Pipelines

- Acothane has been successfully applied to internal and external surfaces of pipelines for gas, oil, water including drinking water waste and process water since 1982.
- Most if not all British Gas transmission pipelines have had Acothane applied to girth welds, bends, fittings and for repairs since 1982.
- The water industry has also specified and used Acothane over this period of time.

Gas Pipelines

Gas Transmission Pipes

Gas Valves and Fittings

Repairs and Rehabilitation

On site repairs and girth weld coating

On site rehabilitation by line travel equipment

Water Industry

- Acothane offers outstanding long life protection for steel and concrete for drinking water, process and waste water including sewage and sludge where abrasive chemical attack can have serious affect on containment structures.

London Ring Main

Conclusion

- Acothane has over thirty years proven performance and continues to protect steel and concrete structures well beyond the original specified maintenance free life.
- As with all surface coatings preparation and correct application are critical for long life performance.
- Acothane should only be applied by competent partner applicators who have the skills and dedication to provide a complete supply and apply service to the required standards.

ACOTHANE

- High Build in a Single Spray Application
- Brush and Roller Application Also
- High Adhesion to Steel and Concrete
- High Impact and Abrasion Resistance
- Good Cathodic Disbondment Resistance
- Highly Tolerant to Site Conditions
- Low Temperature Curing
- Easy Repair to Localised Damage
- Long Maintenance Free Life
- A Truly Universal Protective Coating For All Substrates
- Formulated and first brought to market in 1980 Acothane was registered in 1984.
- **A Proven 30 Year Maintenance Free Track Record.**
- **Fifty Years Goal Achievable?**

Spencer Coatings Ltd

- Spencer Coatings Ltd have been manufacturing paints and coatings in Aberdeen since 1909.
- Following the acquisition of Stokes Paints in 2012 all production was relocated to the Huthwaite plant in Nottinghamshire.
- The Acothane business was acquired in 2002 and is now a major part of the Groups international activities for steel and concrete protection.

ACOTHANE

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