

# CONTAINER CRANE

**ENVIROPEEL**  
THERMOPLASTIC SYSTEMS

A major Australian stevedoring company was looking for a solution to the problem of corrosion on the cleats and pigtails of their aging mobile portainer crane servicing the Fremantle Port. Of paramount concern to the operators was the potential hazard to wharf workers below if parts were to break free. Enviropeel was applied to prevent corrosion damage and secure the components to the crane platform and jib.



Fremantle Port is one of Australia's five major ports and is often the first and the last port of call for a variety of shipping between Australia and overseas. During 2004/2005 just over 5 million tonnes were shipped through Fremantle in nearly half a million containers. The crane requiring attention was the oldest in the port and had been in service at the Port since 1978, loading sea containers to and from visiting vessels.

The cleats and pigtails securing the rails on the crane platform suffered severe corrosion caused by the marine environment and exposure to high winds, rain and extreme variations in temperature. The corrosion made them prone to breaking free and created a falling debris hazard for personnel working below.

*Above: A view of the Fremantle Port Portainer Crane*

*Left: A length of track on the crane platform showing the corroded cleats and pigtails*

Enviropeel products are manufactured and licensed by Enviropeel Holdings LLC, USA  
[www.enviropeel-holdings.com](http://www.enviropeel-holdings.com)

*A&E Group is the licensed distributor for Enviropeel products in Australia, Europe and Asia, visit our website at [www.ae-sys.com](http://www.ae-sys.com) or contact any of our offices for technical advice and availability in your area:*

**AUSTRALIA:** A&E Systems PTY Ltd  
36 Harries Way, Pinjarra  
WA 6208, Australia  
Tel: +61 (0)8 94183688  
Fax: +61 (0)8 94183588  
Email: [aus@ae-sys.com](mailto:aus@ae-sys.com)

**EUROPE:** A&E Services Ltd  
3 Charles Wood Road, Dereham  
NR19 1SX, UK  
Tel: +44 (0)1362 694915  
Fax: +44 (0)1362 695350  
Email: [uk@ae-sys.com](mailto:uk@ae-sys.com)

**MALAYSIA:** A&E Systems Sdn Bhd  
No 32 Jalan Serendah 26/39, iParc  
2, Seksyen 26, Kawasan  
Perindustrian HICOM, 40400  
Selangor, Malaysia  
Tel : +60 (0)3 5103 3877  
Fax : +60 (0)3 55103 3118  
Email: [mal@ae-sys.com](mailto:mal@ae-sys.com)

**A&E**  
**SYSTEMS**  
ALOCIT & ENVIROPEEL  
[www.ae-sys.com](http://www.ae-sys.com)



Top: A single cleat and pigtail prior to coating  
 Above: Cleat and pigtail after being coated with Enviropeel

Right: A length of track on the jib showing coated cleats linked with Enviropeel to improve security  
 Below Right: Views of Enviropeel coated cleats

After viewing a demonstration of Enviropeel applications at the A&E Perth site, the crane owners, who were very impressed with Enviropeel, decided it was the ideal solution to immediately halt the situation. A&E was contracted to apply a coating of Enviropeel to the cleats and pigtails on the crane causing the most safety concerns.

The Enviropeel coating was essential to stop corrosion and prevent separation. For extra security an additional 'strip' was applied to link the outside cleats to each other. Surface preparation was minimal, requiring no more than a brush down of loose material and dirt. The elongated bolt holes on the cleats and the irregular curved shape of the pigtails allowed the Enviropeel to flow beneath the nuts and around the pigtails thereby 'locking' the material in place, pull checks on the set Enviropeel confirmed the encapsulation of the material with the substrate. In total 208 cleats on the outside of the rail and 104 pigtails were coated with Enviropeel to complete the work.

**CONCLUSION**

Coating the cleats and pigtails on this aging crane with Enviropeel has solved two problems for the operators. All further corrosion has been prevented by the anti-corrosion inhibitors within the Enviropeel and the safety hazard to personnel from falling debris has been eliminated. This was a cost-effective option compared with the need to decommission the crane before scheduled or having to replace all the cleats and pigtails.

