

UNDER-RAPS™ ASSET PROTECTION



5 CYCLONES AND STILL GOING!

The tropical cyclone season in northwest Australia was one of the busiest ever recorded. A total of 9 cyclones were observed in the Perth Tropical Cyclone Warning Centre Region (90°E - 125°E) of which 6 occurred off the northwest coast of Australia (105°E - 125°E).

Five of these caused gale force winds on the WA coastline and three crossed the coast. This compares with the long term average of 4 northwest cyclones each season with 2 coastal crossings.

At the Burrup Fertiliser Joint Venture Project the product ship feeder tube is wrapped in 3 layers of Under-Raps shrink film to protect it from the elements, mainly "UV".

The ship feeder is facing the coast with no protection and takes the full force of cyclones and storms.



Encapsulation aids lining application

Ridgebay Access Australia used Under-Raps Shrink-Films to encapsulate the roof and workshop areas of 42m and 30m diameter tanks located at BHP Billiton's Ravensthorpe Nickel mine in WA.

The encapsulations were subject to severe weather conditions, coastal winds and storms and low temperatures with high humidity.

The encapsulations enabled the temperature of the steel to be maintained at > 13° C and humidity at 60° enabling the application of rubber lining to the walls, floors and rake mechanisms.

Several workshops were also encapsulated to maintain a safe weather proof environment for workers during the preparation of the liner that was applied to the tanks.



A pan feeder conveyer belt 23m long, built in Bunbury Western Australia by RCR Tomlinson Ltd ("RCR"), was wrapped in Intercept and 200 um ShrinkWrap for transportation to BHP Area 2.

WA screens for China

JOEST Australia has shipped two large vibrating screens to China for handling raw coal. The double deck screens, which have a width of 4.27m and a length of 7.32m, each weigh 32,200kg excluding the isolation frame. The latest in finite element analysis (FEA) enabled Joest's engineers in Germany to design a very wide screen that can operate with low stresses, giving long and reliable



service. The machines were constructed and factory tested in Perth, Western Australia and shrink-wrapped for shipping to the Shaanxi Province in China.

You haul it, we store it in Intercept Shrink-Film - from start to finish



Locomotive engines from China to Turkey now wrapped in Intercept Shrink- film

Dalian Locomotive & Roll Stock Works is a large-sized keystone enterprise in China founded in 1899. It mainly manufactures Dali Brand DF series diesel electric locomotives, city-trans trams, roll stocks, DL240 and 280 diesel engines and various locomotive parts and other types of diesel electric locomotives.

The annual output is over 500 sets of locomotives and more than 2000 roll stocks, Dalain Locomotives (China Made), parts such as pistons, piston rings, cylinder liners, valves, valve guides, bearings etc.

They used to pack their railway engines with PE or canvas for shipping to the Middle East or Africa. Now, however, Tec-Hub China wraps the parts for shipping in Intercept ShrinkFilm, eliminating corrosion during shipment or storage.

Antrak locos for Ghana

Antrak Paccon Logistics Pty Ltd recently Shipped 2 Locomotives from Fremantle to Takoradi port in Ghana, West Africa wrapped in Under-Raps 200um Shrink-Film. Also shipped were several sets of bogies.



Southern rail link cars protected

Bombardier Transportation is the global leader in the rail equipment manufacturing and servicing industry.

Its wide range of products includes passenger rail vehicles and complete rail transportation systems.

It also manufactures locomotives, freight cars, propulsion and controls and provides rail control solutions.

The company is currently involved in the design and manufacture of 31 x 3-car Itino

Commuter EMUs for the Western Australian Government Railways Commission in a joint venture with EDI Rail. These vehicles will be used on the southern extension of Perth's urban rail network.

The contract includes the design and construction of stabling and maintenance facilities, a 15 year maintenance contract and the option for 10 extra 3-car sets. Under-Raps shrink-wrapped the rail cars for shipment back to Bombardier in Queensland for servicing.



Locomotive engine storage

United Group Rail manufactures high performance, high capacity locomotives that have become a benchmark for the industry, creating new standards in reliability and technological excellence.

The company is one of only three design, manufacturing and service partners in the world for General Electric diesel electric locomotives.

Supplying to a diverse range of applications, United Group Rail produces locomotives to suit the specific requirements of the railway operator.

From the heavy haul applications of the Pilbara region and light weight narrow gauge requirements of Queensland Rail and Westrail to the design of operator cabs for Thailand and Indonesia, United Group Rail has a proven record of performance in service in often difficult environments. Under-Raps Intercept ShrinkFilm is used for the storage of engines until they are put into service.



Under Raps™ in Fumigation Containment

Action taken to eliminate exotic grain beetle

An infestation of Khapra beetle had recently been detected in a home in Scarborough.

The beetle was found in packing boxes and belongings shipped from Scotland and unpacked in the Scarborough house.

The beetle is not known to be found in Scotland, so quarantine officers are investigating the movement of the container to try and ascertain the origin of the beetle.

This beetle is one of the most serious threats to stored grain products and is a regulated quarantine pest in many countries.

The khapra beetle is native to the Orient but has become established in a number of countries around the globe.

Losses attributed to the beetle have been known to reach as high as 70% of stored grain.

The international trade implications for Australia, should the beetle become established, are enormous.

As such, the Department of Agriculture and Food (DAFWA) is very anxious to eradicate this pest.

The only viable and internationally agreed treatment for the pest is fumigation with methyl bromide.

The infested home was fully encapsulated with Under-Raps Shrink-Wrap sheeting prior to the introduction of the fumigant.

Methyl Bromide is a highly toxic fumigant and as such is regulated to ensure its safe use.

Appropriately trained and licensed fumigators were contracted to undertake the treatment.

Officers from the Pesticide Safety Branch inspected the property and set conditions for the fumigation to proceed.

Immediate neighbours of the infested property were evacuated from their homes until the treatment was completed and the property cleared of fumigant.

The fumigation was successful from a public health perspective with the home owner and neighbours supportive of the action taken.



Fumigation of imported yachts

Because yachts brought in from overseas pose a considerable risk of introducing exotic pests into Australia, they can be subject to fumigation. Under-Raps shrink-wraps these vessels, allowing for safe and effective fumigation to be carried out.



Under Raps Intercept Technology™

1984: Renovation of the Statue of Liberty in New York.



... Offering a preferential surface for the reaction with corrosive gases.

The Statue's torch patina was artificially induced with a French process involving heating the copper sheet and flashing it with sulphuric acid. Such a patina leaves a superficial and unsightly black copper sulphide after rainfall and reduces the overall copper thickness. It could take many years for it to attain the green colour. The rest of the statue was treated with Intercept Technology™ copper particle solution, which within weeks accelerates to the desired final copper green patina, while not decreasing the statue's copper skin thickness.

CORROSION INTERCEPT® (CI)

Normal Patina needs about 28 years for the complete evolution to take place.

- CI allowed the Patina to grow in 5-7 days
- There are no physical or chemical differences between the Intercept patina and natural grown patina. This example explains the receptivity of CI. The copper particles used were extremely fast reacting with the gases in the atmosphere due to their extremely high active surface area.

Idea:

If the particles in the patina solution can react so quickly and bind the elements from the atmosphere (hydrogen sulphide, ozone, chloride, etc.) it should be possible with these copper particles to neutralise a defined room or space.

Worker's Safety & Environment

Intercept is not a VCI

- There are no outgassing or VOC issues related to Intercept
- Intercept was awarded the prestigious environmental award in Germany for "Environmentally Friendly and Preferred Anti-Corrosion Packaging"
- There are no restrictions for Intercept in regards to:
 - TRGS 615 - Intercept is compliant (contains 0 Nitrates / Nitrites)
 - RoHS - Intercept meets RoHS initiative in Europe
 - Fully reusable and recyclable in Europe as a colored PE film (SI)

CORROSION INTERCEPT® was tested by NASA for contamination and certified for space-flight conditions



Under the Spotlight **Warwick Richards - Director**

- Role - product support marketing
- Warwick commenced with Under-Raps 10 years ago and provides a wealth of experience in the marine industry and in shrink-wrapping
- He is a shipwright by trade
- Member Australian Corrosion Association (ACA)
- Founding member Intercept Technology Group (ITG)
- Founding member International Shrink-Wrapping Association (ISA)

Disclaimer:

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Website: www.underraps.com.au