

# KCGM Fimiston

## Case history

**Focus product:** Polibrid 705E

**Year of project:** 2004

**Year of inspection:** 2010

**Location:** Australia

**Type of project:** CIL Tank Internals

**Products/system used:** Polibrid 705E

**Project owner:** KCGM (Kalgoorlie Consolidated Gold Mine)

**Applicator:** KCGM

**ISO12944 environment:** Immersion

**Project size:** 4,000 litres (1,000 gallons)

### Area inspected

The combination of an abrasive and chemically rich environment makes CIL tank internals highly vulnerable to corrosion.

Even after 6 years there was only a few minor repairs completed in less than a day and then return to service the following day.

**The tank was in excellent condition and returned to service the following day.**



# Boddington Gold Mine

## Track record 2009

**Location of project**

Perth, Western Australia

**Products/system used**

Intercure<sup>®</sup> 200, Intergard<sup>®</sup> 345  
Interseal<sup>®</sup> 670HS, Interzone<sup>®</sup> 954  
Interfine<sup>®</sup> 629, Polibrid<sup>®</sup> 705E

**Project owner**

Newmont

**Applicator**

Cape Industrial Services PLC

**ISO12944 environment**

Ranging from Immersion to C5 - I

**Project size**

7,589 tons

**Project volume**

565,000 L (124,300 gals)



# UAN 32-0-0 Tank Lining

## Track record 2010

**Location of project**

USA

**Products/system used**

Area 1 - Walls

Enviroline® 376F-30LT @ 500-750µm (20-30 mils)

Area 2 - Floor

Enviroline 376F-30LT @ 750-1,000µm (30-40 mils)

**Applicator**

Johnson Contracting

**ISO12944 environment**

Immersion

**Total area**

1,394m<sup>2</sup> (15,000ft<sup>2</sup>)





# Coal Reclaimer

## Track record 2009

**Location of project**

Port Warratah, Australia

**Products/system used**

Interzinc® 52HS, Intergard® 475HS,  
Interfine® 878

**Project owner**

Port Warratah Coal Services (PWCS)

**ISO12944 environment**

C5-M

**Project size**

Approx. 1,000 tons

**Project volume**

99,000 L (1,980 gals)



# Lake Lindsay, Bowen Basin

## Track record 2009

**Location of project**

Australia

**Products/system used**

Area 1 - External

Interprime® 198, Interthane® 990

Area 2 - Internal

Interprime® 198, Interlac® 649

**Project owner**

Anglo Coal Australia

**Applicator**

Transcote

**ISO12944 environment**

C2 (Non industrial high durability)

**Project size**

7,000 tonnes

**Project volume**

External 8,000 L (1,759 gals)

Internal 1,600 L (352 gals)





# Lihir Gold Mine

## Track record 2007

**Location of project**

Lihir Island, Papua New Guinea

**Products/system used**

Interseal® 670HS, Interzone® 954,  
Interzone® 485, Intertherm® 751CSA

**Project owner**

Lihir Gold Limited

**Applicator**

Placement Solbrow Joint Venture  
& Sun Engineering

**ISO12944 environment**

C3-C4

**Project size**

8,000m<sup>2</sup> (86,111ft<sup>2</sup>)

**Project volume**

17,000 L (4,490 gals)



# San Rafael Las Flores El Escobal Silver Mine

## Track record 2013

**Location of project**

Guatemala

**Products/system used**

Area 1 - Intergard® 345, Interthane® 990

Area 2 - Interzone® 954

**Project owner**

Tahoe Resources Inc.

**Applicator**

TIPIC-DEMESA

**Fabricator**

International®

**ISO12944 environment**

C4

**Project size**

30,000m<sup>2</sup> (322,917ft<sup>2</sup>)





# BMA Hay Point Stacker/Reclaimer

## Track record 2013

**Location of project**

Australia

**Products/system used**

Interplus<sup>®</sup> 356 @ 75µm (3 mils)

Interzone<sup>®</sup> 278 @ 300µm (12 mils)

**Project owner**

BMA

**Applicator**

McElligotts -Mackay

**Project type**

Maintenance project

**ISO12944 environment**

C5





# Meta Nickel & Cobalt Mining - Ore Processing Plant

## Track record 2013

**Location of project**

Turkey

**Products/system used**

Area 1 - Tank Interior  
Interline® 925 - 400µm  
or Interzone® 954 - 400µm

Area 2 - Tank Exterior

Interseal® 1052 - 125µm

Interthane® 990SG - 125µm

**Project owner**

Meta Nickel & Cobalt Mining

**Applicator**

Orkay Muhendislik

**ISO12944 environment**

C4 Semi industrial (Medium durability)

**Project size**

3 tanks: 3,271 m<sup>2</sup> (35,209 ft<sup>2</sup>)



# CSA Cobar Nitric Acid Bunded Area

## Case study 2012

**Focus products:** Ceilcote® 380, Ceilcote 6640,  
Ceilcote 242 Flakeline

**Location:** Australia

**Project owner:** Glencore

**Applicator:** DJW Contracting

**Surface preparation:** Concrete surface preparation

**ISO12944 environment:** C3

**Project size:** 22m<sup>2</sup> (237ft<sup>2</sup>)

### Background

Nitric acid is used to wash the copper concentrate filters. It is stored in a stainless steel tank which is housed inside a concrete bund, installed in 2001. Over time, the acid spills and leaks had corroded the concrete inside the bund quite severely. DJW Contracting and AkzoNobel were contracted to supply and install a sealing system that would ensure the integrity of the bund for the life of the mine.



### The solution

Ceilcote was chosen due to its chemical resistant properties and durability. The system was suitable for nitric acid (up to 35%) chemical exposure with occasional splash and spill, and a maximum temperature of -40°C (-40°F).

Firstly 50-60µm (2 - 2.4 mils) of Ceilcote 380 Primer was applied. Then Ceilcote S-1 Powder sand and resin mix to cover the holes created by the acid. This was followed by troweling Ceilcote 6640 @ 1000µm (40 mils), then a layer of fibreglass matt was placed on the wet coating. The final step was to spray Ceilcote 242 Flakeline @ 500µm (20 mils).



**“The interior surface of the nitric acid bund has not only been repaired, it is now ready to handle the rigors of operation for the life of the mine. Thanks to AkzoNobel for their skills, expertise and knowledge in seeing this job completed.”**

Jarrod Marsden - Surface Maintenance Superintendent CSA Mine Cobar

# Dalrymple Bay Coal Terminal 7X Project

## Track record 2009

**Location of project**

Australia

**Products/system used**

Ship Loader - Interzinc® 52, Intergard® 475Au

All Steelwork above deck -  
Interzinc® 52, Intergard® 475Au

**Project owner**

DBCT Coal management

**Applicator/Fabricator**

John Holland

**ISO12944 environment**

C5M

**Project size**

20,000m<sup>2</sup> (215,278ft<sup>2</sup>)





# Mount Arthur coal facility

## Case history 2010

**Focus product:** Interzone® 954 @ 500µm (20 mils)

**Year of initial application:** 2004

**Country of project:** Australia

**Type of project:** Coal thickener tank

**Project owner:** BHP Billiton

**ISO12944 environment:** Immersion (Wet coal slurry abrasion)

### Area inspected: Internals

In 2004, Interzone 954 was selected to coat the internal wall of a coal thickener tank at BHP Billiton's Mount Arthur coal facility. Interzone 954 was selected for its well documented performance in immersed conditions and the product's ability to withstand highly abrasive conditions.



The tank was inspected in 2010 and these pictures show the coating was still performing very well after six years in service and there was no evidence of corrosion. This practically demonstrates the abrasion resistance of Interzone 954 in a coal processing environment.



# Black Otter Coal Preparation Facility

## Track record 2009

**Location of project**

Montana, United States

**Products/system used**

Intercure<sup>®</sup> 200, Interthane<sup>®</sup> 990

**Fabricator**

Taggart

**ISO12944 environment**

C4 Semi industrial

**Project size**

1000 tons





# Buckeye Coal Preparation Facility

## Track record 2008

**Location of project**

Ohio, United States

**Products/system used**

Intergard® 345

**Project owner**

Cline Resources

**Fabricator**

Taggart

**ISO12944 environment**

C4 Semi industrial

**Project size**

580 tons





# Burr Oak Preparation Facility

## Track record 2009

**Location of project**

Ohio, United States

**Products/system used**

Intercure® 200, Interthane® 990

**Project owner**

Buckingham Coal

**Fabricator**

Taggart

**ISO12944 environment**

C4 Semi industrial

**Project size**

200 tons



# Hidden Valley Gold

## Track record 2008

**Location of project**

Papua New Guinea

**Project owner**

Morobe Mining Joint Ventures

**Products/system used**

Area 1

Intergard® 251, Interthane® 990

Area 2

Intergard® 251, Intergard® 475HS

**Applicator/Fabricator**

LILAMA 69-3 (Vietnam)

**ISO12944 environment**

C5-I

**Project size**

60,000m<sup>2</sup> (645,835ft<sup>2</sup>)





# Licking River Preparation Plant

## Track record 2008

**Location of project**

Kentucky, United States

**Products/system used**

Intergard® 345

**Project owner**

Licking River Resources

**Fabricator**

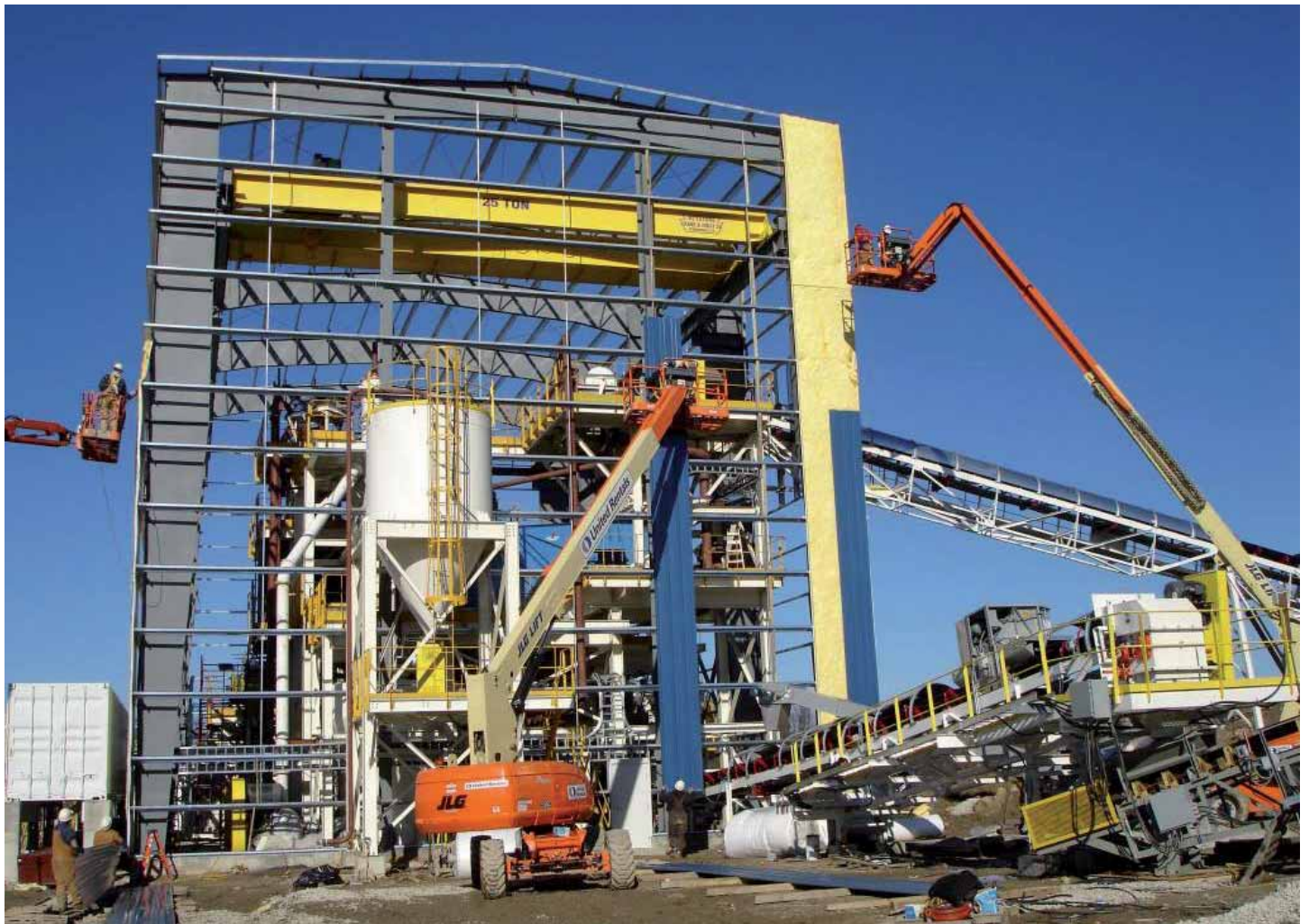
Taggart

**ISO12944 environment**

C4 Semi industrial

**Project size**

300 tons





# Mining Shovel

## Track record 2013

**Location of project**

Wisconsin, USA

**Products/system used**

Devguard® 4180, Interlac® 665

**Applicator**

WI Contractor

**ISO12944 environment**

C3

**Surface preparation**

SSPC-SP1

**Total volume**

27,482 L (7,260 gals)

**Total area**

185,806m<sup>2</sup> (2,000,000ft<sup>2</sup>)



# Mosaic Potash Colonsay Mine

## Track record 2009

**Location of project**

Saskatchewan, Canada

**Products/system used**

Enviroline® 376F-30

Enviroline® 58HS

Bflex® 9400SP

**Project owner**

Mosaic Company

**Applicator**

Danger Sandblasting & Painting

**Project type**

Maintenance and repair

**Environment**

Potassium chloride/sodium chloride tank with clay in immersion

**Total volume**

1,900 L (415 gals)





# Nui Phao Tungsten

## Track record 2007

**Location of project**

Vietnam

**Products/system used**

Area 1 - Intergard® 269, Interzone® 954

Area 2 - Intercure® 200, Interzone® 954

**Project owner**

Tiberon Mineral Ltd Thai Nguyen  
Mineral Company

**Applicator/Fabricator**

COMA Corporation

**ISO12944 environment**

C5-I



# Tusky Preparation Plant

## Track record 2008

**Location of project**  
Ohio, United States

**Products/system used**  
Intergard® 345

**Project owner**  
Rosebud Mining Company

**Fabricator**  
Taggart

**ISO12944 environment**  
C4 Semi industrial

**Project size**  
300 tons





# BMA Goonyella/ Riverside Dragline

## Track record 2008

**Location of project**

Moranbah, Australia

**Products/system used**

Interprime® 198 @ 75µm (3 mils)

Interfine® 629 @ 75µm (3 mils)

**Project owner/specifier**

BMA

**Applicator**

Ausblast Protective Coatings

**ISO12944 environment**

C2 Non industrial (high durability)

**Surface preparation**

Spot blast 2.5

**Total volume**

2,300 litres (600 gals)

**Total area**

4,500m<sup>2</sup> (48,400ft<sup>2</sup>)



# BHP Billiton Stacker Reclaimer

## Track record 2006

**Location of project**

Dalian, China

**Products/system used**

Area 1 - Steel structure surface exposed  
Interzinc® 52 @ 75µm (3 mils)  
Intergard® 475HS @ 200µm (8 mils)  
Interthane® 990 @ 75µm (3 mils)

Area 2 - Steel structure surface exposed  
Interzinc® 52 @ 75µm (3 mils)  
Interzone® 954 @ 250µm (10 mils)

Area 3 - Sealed internal steel structure surface

Interzinc® 52 @ 75µm (3 mils)

Area 4 - Galvanised steel structure  
Intergard® 269 @ 40µm (2 mils)  
Interthane® 990 @ 50µm (2 mils)

**Project owner**

Dalian Huarui Heavy Industrial Int'l Co., Ltd

**Applicator**

DHI.DCW Group Co., Ltd. 2nd manufacture department

**ISO12944 environment**

C5-I Heavy industrial (high durability)

**Total volume**

19,900 litres (5,200 gals)

**Total area**

46,600m<sup>2</sup> (501,500ft<sup>2</sup>)





# BHP Billiton Yabulu Quench Liquor Tank

## Track record 2007

**Location of project**

Yabulu, Australia

**Products/system used**

Intergard<sup>®</sup> 269 @ 40µm (2 mils)  
Interzone<sup>®</sup> 954 @ 500µm (20 mils)

**Project owner**

BHP Billiton

**Applicator**

QNI Yabulu Refinery

**ISO12944 environment**

Immersed conditions e.g. tank lining

**Surface preparation**

Clean/SA2.5

**Total volume**

81 litres (21 gals)

**Total area**

100m<sup>2</sup> (1,200ft<sup>2</sup>)



# Carborough Downs

## Track record 2008

**Location of project**

Via Moranbah, Australia

**Products/system used**

Interzinc® 52 @ 75µm (3 mils)

Intergard® 475 @ 200µm (8 mils)

**Specifier**

Roche Mining

**Applicator**

Ausblast Protective Coatings

**ISO12944 environment**

C3 Light industrial (high durability)

**Total volume**

1,100 litres (200 gals)

**Total area**

3,000m<sup>2</sup> (32,200ft<sup>2</sup>)





# Dawson Coal Mine Stacker/Reclaimers

## Track record 2007

**Location of project**

Moura, Australia

**Products/system used**

Interzinc® 52 - Spot prime

Intergard® 475 @ 175µm (7 mils)

Interthane® 990 @ 75µm (3 mils)

**Specifier**

Sedgman Ltd

**Applicator**

Transcote Pty Ltd

**ISO12944 environment**

C2 Non industrial (high durability)

**Surface preparation**

Spot blast 2.5

**Total volume**

2,100 litres (500 gals)

**Total area**

4,500m<sup>2</sup> (48,400ft<sup>2</sup>)



# Ore Carriages, Bobos

## Track record 2007

**Location of project**

Broken Hill, Australia

**Products/system used**

Interprime® 484 @ 40µm (2 mils)

Interlac® 649 @ 50µm (2 mils)

Interlac® 649 @ 50µm (2 mils)

**Project owner/applicator**

Bobos Engineering

**Surface preparation**

Abrasive blast Sa2.5 or SP10

**Total volume**

500 litres (100 gals)

**Total area**

1,000m<sup>2</sup> (10,700ft<sup>2</sup>)





# Rio Tinto Dust Collectors

## Track record 2008

**Location of project**

Yarwun, Australia

**Products/system used**

Intertherm® 228 @ 100µm (4 mils)

Intertherm® 228 @ 100µm (4 mils)

**Project owner**

Rio Tinto Aluminium, Yarwun

**Applicator**

S & L Steel Pty Ltd

**ISO12944 environment**

High heat areas

**Surface preparation**

Abrasive blast Sa2.5 or SP10

**Total volume**

700 litres (100 gals)

**Total area**

2,500m<sup>2</sup> (26,900ft<sup>2</sup>)



# Taseko Mines Process Tanks

## Track record 2007

**Location of project**

Saskatoon, Canada

**Products/system used**

Tank exteriors

Interzinc® 52 @ 76µm (3 mils)

Intergard® 345 @ 152µm (6 mils)

Tank internals

Interzone® 954 @ 406µm (16 mils)

**Project owner/applicator**

Thermo Plus Coatings Ltd.

**ISO12944 environment**

C3 Light industrial (high durability)

**Surface preparation**

Abrasive blast Sa2.5 or SP10

**Total volume**

200 litres (56 gals)

**Total area**

400m<sup>2</sup> (5,000ft<sup>2</sup>)



# Thyssenkrupp Stacker Reclaimer

## Track record 2007

**Location of project**

Dalian, China

**Products/system used**

Area 1 - Steel structure surface exposed  
Interzinc® 52 @ 75µm (3 mils)  
Interseal® 670HS @ 125µm (5 mils)  
Interseal® 670HS @ 125µm (5 mils)

Area 2 - Galvanised steel structure  
Intergard® 269 @ 40µm (2 mils)  
Interseal® 670HS @ 125µm (5 mils)

Area 3 - Front part of boom  
Interzone® 485 @ 1,500µm (59 mils)  
Interthane® 990 @ 50µm (2 mils)

**Project owner/applicator**

Dalian Huarui Heavy Industrial Int'l Co., Ltd

**ISO12944 environment**

C5-I Heavy industrial (high durability)

**Total volume**

11,800 litres (3,100 gals)

**Total area**

26,700m<sup>2</sup> (287,300ft<sup>2</sup>)





# Bozshakol Copper Project

## Track record 2014

**Location of project**

Kazakhstan

**Products/system used**

Interseal<sup>®</sup> 670HS @ 125µm (5 mils)

Interthane<sup>®</sup> 990 @ 50µm (2 mils)

**Manufacturer**

HeNan Changcheng Aluminium Engineering Co., Ltd

**Total volume**

40,000 litres (8,799 gals)



# CITIC SINO Iron Ore Phase 2

## Track record 2014

**Location of project**

Australia

**Products/system used**

Intergard® 251 @ 75µm (3 mils)

Intergard® 475HS @ 150µm (6 mils)

Interthane® 990 @ 75µm (3 mils)

**Manufacturer**

Jiangsu Huning Steel Mechanism Co., Ltd

**Total volume**

200,000 litres (43,994 gals)



# Formosa Vietnam Steel Mills

## Track record 2014

**Location of project**

Vietnam

**Products/system used**

Interseal<sup>®</sup> 670HS @ 190µm (8 mils)

Interthane<sup>®</sup> 990 @ 50µm (2 mils)

**Manufacturer**

MCC No. 5 & Jiangsu ChangHong steel structures Co., Ltd

**Total volume**

200,000 litres (43,994 gals)





# Indonesia SB1 Cement Plant

## Track record 2014

**Location of project**

Indonesia

**Products/system used**

Intergard<sup>®</sup> 251 @ 100µm (4 mils)

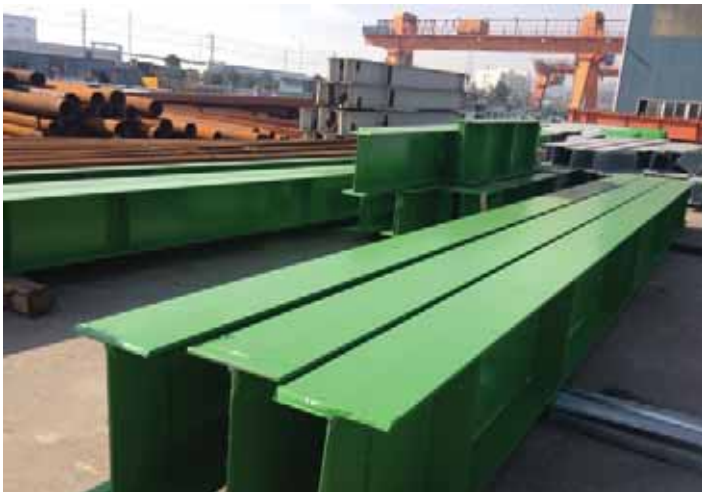
Interthane<sup>®</sup> 990 @ 60µm (2 mils)

**Manufacturer**

Sinoma (Suzhou) steel structures Co., Ltd

**Total volume**

60,000 litres (13,198 gals)



# Kitimat Modernization Project

## Track record 2014

**Location of project**

Canada

**Products/system used**

Interzinc<sup>®</sup> 52 @ 75µm (3 mils)

Intershield<sup>®</sup> 300 @ 150µm (6 mils)

Interthane<sup>®</sup> 990 @ 60µm (2 mils)

**Manufacturer**

Dalian Bihai Environmental Protection Equipment Co.,Ltd

**Total volume**

150,000 litres (32,995 gals)



# Roy Hill Iron Ore Mine

## Track record 2014

**Location of project**

Queensland, Australia

**Products/system used**

Interzone® 954 @ 500µm (20 mils)

**Manufacturer**

Shanghai SCK/Shanghai MHI

**Total volume**

250,000 litres (54,992 gals)





# Vale S11D

## Track record 2014

**Location of project**

Brazil

**Products/system used**

Intergard® 5600 @ 120µm (5 mils)

Interthane® 990 @ 50µm (2 mils)

**Manufacturer**

RHM & TZME

**Total volume**

150,000 litres (32,995 gals)



# Aggregate Plant Project

## Track record 2015

**Location of project**

Turkmenistan

**Products/system used**

System for structural steel

Interseal® 670HS @ 230µm (9 mils)

Interthane® 990SG @ 70µm (3 mils)

**Project owner**

Polimeks Holding

**Distributor**

Kemipaz Endustri Tic. San. ve A.S.

**Applicator**

Optima Muhendislik Ltd. Sti.

**ISO12944 environment**

C5

**Project size**

5,600m<sup>2</sup> (60,278ft<sup>2</sup>)



# Sulphuric Acid Pool Lining

## Track record 2015

**Location of project**

Turkey

**Products/system used**

System for structural steel - Internal system  
Intercrete™ 4802, Intercrete 4820, Ceilcote® 2000MR

**Project owner**

Meta Nickel Processing Plant

**Applicator**

Bakim Mühendislik

**ISO12944 environment**

Immersion

**Project size**

250m<sup>2</sup> (2,691ft<sup>2</sup>)





# Crushing and Screening Plant

## Track record 2015

**Location of project**  
Turkey

**Products/system used**  
System for steel structure -  
Primer; Intergard® 251 Red @ 1x60µm  
Intermediate; Intergard 251 Grey @ 1x60µm  
Top coat; Interthane® 990SG Dark grey @ 1x60µm

**Project owner**  
ThyssenKrupp  
Industrial Solutions AG

**Applicator**  
Kemipaz A.Ş.

**ISO12944 environment**  
C5-I

**Project size**  
2,200 ton



# Ravensdown Fertiliser Plant Acid Tank and Stairs

## Track record 2012

**Location of project**

Christchurch, New Zealand

**Products/system used**

Interzone® 954 @ 400µm (16 mils), Interfine® 870 @ 75µm (3 mils)

**Applicator**

H W Hendriks Ltd.

**Project Size**

2,000m<sup>2</sup>



# Gold Mine Caustic Tank Lining

## Track record 2015

**Location of project**

Turkey

**Products/system used**

Internal system -  
Ceilcote® 282HB 1x750µm

**Applicator**

Atilla Makina A.Ş.

**ISO12944 environment**

Immersion

**Total volume**

225 litres (59 gals)

**Total area**

200m<sup>2</sup> (2,153ft<sup>2</sup>)





# Baturaja Cement Plant

## Track record 2016

### Location of project

Indonesia

### Products/system used

Interseal® 1052 @ 150µm (6 mils), Interthane® 990 @ 50µm (2 mils)

### Project owner

Baturaja cement plant/ Tianjin cement Industry  
Design & Research Institute Co., Ltd.

### Fabricator

Sinoma Tangshan HaiGang Technology & Equipment Co., Ltd.

### Project size

50,000L (13,209 gals)



# Kazakhstan Aktogay Copper factory

## Track record 2016

**Location of project**

Kazakhstan

**Products/system used**

Interzone® 485 @ 2 x 1,000µm (40 mils)

**Project owner**

Kazakhmys PLC

**Applicator**

The Sixth Construction Company Ltd. of  
China National Chemical Engineering (SCCCNCE)

**Project size**

5,000L (1,320 gals)

