



Associate of International Zinc Association

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galvanize
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Asia Pacific Edition

HOT DIP GALVANIZED STEEL

SOREL AWARD WINNER 2011 AND SPECIAL COMMENDATIONS



Winner

Hartway Galvanizers
Naval Base for
The Brockman 4 Project
"Green with Envy"

Special commendations

Korvest Galvanisers for
'Manuele Engineers Steel
Facade Building'
and
Australian Professional
Galvanizing Pty Ltd for
'Redlynch Indoor Sports
Stadium – Futsal'



The winner of the Sorel Award 2011 for Industry Innovation was announced at the Galvanizers Association of Australia's Annual Conference last October. The award was presented to:

Hartway Galvanizers Naval Base for The Brockman 4 Project "Green with Envy"

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Editorial

Rosemary Scott
Ann Sheehan

Prepared by

Galvanizers Association of Australia

SOREL AWARD WINNER 2011

Background

The Sorel Award is dedicated to Stanislaus Tranquille Modeste Sorel, the French Civil Engineer who, during the 1830's, pioneered the galvanizing process as we know it today.

Sorel said "Every day of practice in a new industry gives birth to new improvements and frequently the parent idea is virtually eclipsed by the modifications, becoming finally no more than a small nucleus around which is grouped everything created by thought and experiment. This is what happened with our discovery: The parent idea is a trifle and the details are everything – they form a NEW INDUSTRY."

Today, the Award recognises the most significant recent contribution to the enhancement of the galvanizing industry in the areas of project innovation.

The criteria for each entry, by which it is judged, include:

- Ability to provide specific service, in terms of delivery and backup
- Contribution towards increasing the galvanizing market in total, through innovation, promotion and distribution
- Extension of product and service into related market segments
- Benefit to the community
- Contribution to reducing construction time, cost and efficiency
- Contribution to the engineering viability of the structure
- Specific contribution to corrosion resistance, mitigation and maintenance-freedom
- Degree of engineering difficulty in design
- Development of new techniques for handling, pretreatment and galvanizing
- Degree of galvanizing complexity
- Contribution of process to improvement in galvanizing efficiency

"Green with Envy"

The Brockman Syncline 4 Mine – Hartway Galvanizers Naval Base

Hot dip galvanizing was sold as a "superior service" in this arid inland project.

Rio Tinto's Brockman 4 iron ore mine is located in the Pilbara, Western Australia and was officially opened in September 2010. The US\$1.5 billion mine will have an initial output of 22 million tonnes per annum (Mt/a) of high-grade iron ore, with the opportunity to double that capacity as Rio Tinto's expansion of its Pilbara operations continues.

The project involved the development of a new mine and construction of a:

- Primary and secondary crushing facility
- Product screening facility
- Project sampling stations
- Stackers, Reclaimer, stockpiles and train load out bin
- 43kms of new heavy haul railway from Brockman 2 to a rail loop at Brockman 4
- New rail siding (Crest Siding), located between Rosella and Brockman 2
- Infrastructure to support the new site

Corrosion protection for steel on projects in this arid environment was traditionally through the use of paint, i.e. one coat system (with blasting for surface preparation) consisting of a green 75µm inorganic zinc rich silicate primer. Although hot dip galvanizing offers over a 50 year life to first maintenance, durability was not a major concern in this project's arid climate. "At the end of the day, it is in the middle of the desert and will be covered in red dust once commissioned." The galvanizer could see in order to offer an alternative to paint, the merits of hot dip galvanizing with regard to ease of handling, faster turnarounds and quality service, needed to be promoted.

Tight co-ordination with the fabricators on the design of the steel components enabled a high standard of galvanizing and a fast, efficient service. A close relationship with the main contractor, Monadelphous, also ensured teamwork enhanced the final outcome.

One of the original reasons for using a paint system was to make the structure 'aesthetically pleasing'. Teamwork with Monadelphous and the fabricators along with an emphasis on quality service allowed hot dip galvanizing to meet this criterion. Monadelphous Project Manager, Chris Emer, flew over the site and said the galvanizing looked brilliant from the air.

Hot dip galvanizing was used as a corrosion protection in the conveyor modules, stringers, trestle legs, piping, brackets, cable ladders and conveyor frames.

The Sorel judges commented that the galvanizer provided added value to the corrosion protection of steel by offering proof of good service, fast turnaround and quality which will ensure that this geographically located market will continue to grow.

