


technology & market development





TMD Newsletter

October 2017

Contents

IZA's Zinc Thermal Spraying (ZTS) program expanded to ships and bridges

IZA was successful in convincing two of the biggest global wind turbine manufacturers Siemens and Vesta to protect their offshore wind energy installations with thermal sprayed zinc. IZA will now focus on the zinc thermal spraying of ships.

Ships are typically protected by paint. Zinc thermal spraying is rarely used for corrosion protection above the waterline. And why not? It appears that most boat owners know very little about the benefits of corrosion protection with ZTS. Considering the amount of navy, freight, cruise ships and ferries worldwide there is a huge market potential for zinc thermal spraying.

In summer 2017, IZA highlighted the benefits of zinc thermal spraying in offshore environments in a speech to the American Society of Naval Engineers Fleet Maintenance and Modernization Symposium in San Diego, California. Offshore wind energy installations have shown the superior durability of the duplex zinc thermal spraying + paint coating system. While corrosion repair increases significantly for paint after 10 years zinc thermal spray + paint provides a 20-25 year corrosion protection with minimum maintenance enabling significant life-cycle cost savings. IZA thermal sprayed a ferry vessel in Sweden 2016 and testing in 2017 showed excellent results for zinc thermal spraying + paint at the first-year inspection this summer.

Other activities to grow the market for zinc thermal spraying include IZA's participation in the International Thermal Spray Conference in Düsseldorf, Germany during June. IZA will deliver a speech at the Midwest Bridge Preservation Partnership, a group of regional state and local highway agencies, provincial transport agencies, industry, suppliers, consultants and academics in Minneapolis, Minnesota in November.

A new brochure on "Thermal sprayed zinc coatings" and a new dedicated microsite are currently being prepared to support the market development activities.

Continuous Galvanized Rebar (CGR) having impact

The CGR process has major advantages including superior corrosion protection, the formability of the bars in the field without cracking or flaking of the coating, and significant cost savings. CGR lines are operating in China, USA and Middle East. Following IZA studies on cost and performance, Indian engineers have shown strong interest in this process and a delegation will visit the CGR production line in Xiamen, China this November.

A new CGR specification became active in China on July 1st, 2017. It allows public authorities to begin using this product. In the USA a duplex CGR-epoxy coated specification, ASTM 1055, was approved meeting the demands of several US state departments of transportation.

In North America IZA has presented CGR at numerous events across Canada and the USA. As a result of a recent seminar given to the California Department of Transportation they have now specified a first trial bridge project to be constructed using CGR. California's leadership in this area is seen as a key to opening opportunities in other states.

Winners of North American Student Design Challenge for zinc die castings

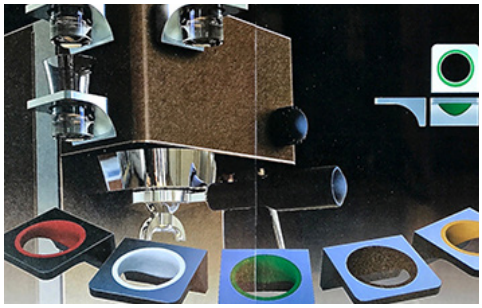
Every year IZA organizes a major design competition for engineering and design students enrolled at a college or university in North America. The students are invited to use their imagination to create, design and develop a themed part utilizing zinc or a zinc die casting alloy.

This year's theme was "Commercial Kitchen Products" and it attracted 79 entries. A jury of recognized zinc die casting experts evaluated the entries based on the appropriateness of the solution to the design challenge. Aspects taken into account included quality, originality, thoroughness and development potential.

The winning parts were:

Ulfberht Knife by Brian Varga, University of Oregon

A general purpose knife with a stainless steel blade and a handle made of zinc utilizing zinc's antimicrobial properties.



Save-A-Shot by Garen Gibbs, Purdue University

An espresso shot holder with the main body made of zinc, a silicone insert and a magnet - to solve the common barista's problem of breaking shot glasses.

Zinc Faucet by Cole Sippel, University of Wisconsin – Stout.

An innovative one-hand control faucet.

The winners each received a US$ 2,000 award while US$ 1,000 went to their faculty advisor for use within the department. Details of the winning entries are available at http://www.interzinc.org/design-challenge.

The 2018 competition is open for registration. The challenge will be to build a glass support system.

India's Smart Cities Mission to boost zinc demand

In 2015 the Government of India launched an ambitious urban developing plan to boost economic growth and improve the quality of life in India's rapidly growing cities. This "Smart Cities Mission" involves 100 cities across the country. A small part of each of these cities will be retrofitted and developed to become a sustainable, clean and liveable area that serves as a replicate model for other parts of the city as well as nearby towns and cities.

The development of "smart" infrastructure will be an important part of this mission, including roads, railways, bridges, ports, subway systems, parking, power systems and telecommunication. Hot-dip galvanizing and zinc thermal spraying for corrosion protection will be crucial to avoid premature concrete degradation. The market potential for zinc will be enormous.

In July IZA organized seminars to ensure public infrastructure specifiers embrace galvanizing as the most durable and cost-efficient way of protecting steel from corrosion especially in India's highly corrosive coastal areas. Seminars were given to: the Jawaharlal Nehru Port Trust in Navy Mumbai; the City & Industrial Development Corporation Ltd in Navy Mumbai and to Engineers of India Ltd in Delhi. In addition, an open seminar on "Hot Dip Galvanizing for Smart Cities" was held in the city of Indore, which ranks in the top 20 cities that will implement their infrastructure development plan within the next five years.

IZA will now bring together India's galvanizing industry and government. IZA member Hindustan Zinc Limited will act as the champion.

Indian die caster DST expands capacity

D.S.T. Industries announced a new automated electroplating plant to provide a complete solution for door hardware and sanitary-ware. D.S.T. improved its technology utilizing the first IZA-CFC transfer of technology program in India; they have become India's leading die caster with state-of-the-art production facilities. IZA has recently facilitated a meeting with one of the major US suppliers of bathroom and kitchen hardware, Liberty Hardware. Liberty buys US$ 50 million of zinc in their products every year - much more than any other material.

IZA and D.S.T. gave an impressive presentation of their capabilities emphasizing IZA's technical support and training and was awarded a trial quotation. Liberty was extremely pleased with the quality of the casting - both the shape capability and the surface quality. D.S.T.'s business will fully take off when they start to receive orders from domestic suppliers raising India's level of zinc demand from 7% today to the global average of 17%. With family incomes rising the demand for better fittings for houses will increase.

More capacity expansion plans in India

Two of the largest zinc producers in India plan to expand their zinc-coated steel sheet capacity. The Steel Authority of India Ltd. will increase galvanized steel production from 244,000 tons to 606,000 tons and JSW will raise capacity to 900,000 galvanized steel tons. Additionally, Tata Steel is installing a new 600,000 tpy rebar mill at Jameshedpur, a fast-growing urban agglomeration in the state of Jharkhand.

The GalvInfo training courses, the introduction of Indian Bureau of Standards specification for galvanized steel sheet IS 277, the formation of the Steel Sheet Building Group and IZA's efforts in the automotive sector contributed favorably to the growth in Indian galvanized sheet capacity.

Flash news

Nisshin Steel joined the **Galvanized Autobody Partnership (GAP)**; they are the first GAP member in Japan. The new owners of Stelco in Canada have also joined the GAP Program, meaning that all North American producers of galvanized automotive sheet steel are now GAP members.

An **IZA article** on "AMC380, An Improved Al-Si-Cu-Zn-Mg Die Casting Alloy" was published in NADCAS's Die Casting Engineer Magazine, July 2017.

A number of **galvanizing seminars were held in Latin America** including in Argentina, Colombia; Costa Rica and Ecuador. These seminars were organized by the national galvanizer associations in conjunction with IZA.

NUCOR-JFE Steel Mexico, a joint venture of JFE Steel Corporation and Nucor Corporation, are building an automobile steel sheet manufacturing plant in Silao in the State of Guanajuato. Production will commence in 2019.

IZA's Director TMD, Frank Goodwin was honored with Life Membership in Wire Association International in recognition of his long-term support of developments in zinc-coated wire and cable.

Martin van Leeuwen reinforces IZA's TMD team

In May Martin van Leeuwen joined IZA as Manager, Technology and Market Development. In this capacity he helps manage several IZA global programs and coordinates IZA's regional TMD programs.

Martin has 20 years of experience in research and market development functions in the zinc, steel and aluminum industries. He began his career as a researcher at Tata Steel, then served as a Project Manager for Gemco Engineers before joining Nyrstar in 2005. Most recently, Martin held the position of Foundry Key Account & Technical Customer Support Manager at Alcoa Global Primary Products. He holds a Master of Science in Chemical Engineering from Eindhoven University of Technology in the Netherlands.

Welcome Martin.

IZA seminars and conferences

Galvanizing Seminar, San José, Costa Rica, October 6, 2017

Zinc Metal Roundtable, Pittsburgh, Pennsylvania, October 11-12, 2017

Hot-Dip Galvanizing for Steel Corrosion Protection (national seminar), Putrayaya, Malaysia, October 12, 2017

International Galvanizing Technology Symposium and Exhibition, Xuzhou, Jiangsu Province, China, November 8-10, 2017

2018 International Zinc Conference and Zinc Oxide Industry Conference, Carslbad, California, February 11-14, 2018

2018 International Zinc Conference – Europe, Stockholm, Sweden, April 23-25, 2018

NEW **International Zinc Die Casting Conference 2018,** Chicago, Illinois, June 4-6 2018
A new biennial conference on zinc diecasting in North American.

Zinc College 2018, Kokkola, Finland, June 10-14, 2018

INTERGALVA (organized by EGGA), Berlin, Germany, June 17-22, 2018

LATINGALVA 2018, Lima, Peru, November 2018

More information

http://www.zinc.org/iza-events/