

Hot-Dip Galvanized Sheet Production Course



October 12 - 14, 2022

**Sheraton Pittsburgh Hotel @Station Square
Pittsburgh, PA 15219**



**International
Zinc Association**

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The GalvInfo Center
and
International Zinc Association

IZA/GalvInfo Center – Hot-Dip Galvanized Sheet Operations Course Program

October 12-14, 2022 – Sheraton Pittsburgh Hotel at Station Square, 300 West Station Square, Pittsburgh, PA 15219

Wednesday, Oct 12, 2022	Registration 4 PM – 6 PM	Reception 6 PM – 8 PM
Thursday, Oct 13, 2022 Registration 7:30 – 8:00 AM	MORNING SESSION	AFTERNOON SESSION
	8:00 – 8:15 Introduction – <i>Gary Dallin</i>	1:00 – 2:15 HD Bath Chemistry and Control II – <i>Martin Gagné</i>
	8:15 – 9:15 Product and Process Overview – <i>Ana Domingos</i>	
	9:15 – 9:45 BREAK	2:15 – 2:30 BREAK
	9:45 – 11:15 Furnace Operations – Atmosphere Control & Annealing – <i>Gary Dallin</i>	2:30 – 3:30 Advanced High Strength Steels – <i>Frank Goodwin</i>
	11:15 – NOON HD Bath Chemistry and Control I – <i>Martin Gagné</i>	3:30 – 4:30 Galvanneal – Process and Product – <i>Gary Dallin</i>
Friday, Oct 14, 2022	8:00 – 9:30 Coating Weight Control & Air Knives I – <i>Frank Goodwin/Gary Dallin</i>	12:45 – 2:00 Coated Sheet Defects and Their Avoidance – <i>Presenter TBA</i>
	9:30 – 9:45 BREAK	2:00 – 2:15 BREAK
	9:45 – 10:30 Coating Weight Control & Air Knives II – <i>Frank Goodwin/Gary Dallin</i>	2:15 – 3:15 After Pot Processes – <i>Ana Domingos</i>
	10:30 – 11:45 Zinc Bath Hardware – <i>Frank Goodwin</i>	3:15 – 3:45 Review of Key Process Indicators – <i>Gary Dallin</i>
		3:45 – 4:00 Question & Answer Session

Registration Fee – USD795 until September 30, 2022, USD895 after September 30 (\$645/\$745 for employees of GalvInfo Sponsors, and \$695/\$795 for employees of Galvanized Auto Partnership member companies)

Course Elements

Wednesday, October 12, 2022 – Registration 4 pm – 6 pm, Reception 6 pm – 8 pm

Thursday, October 13, 2022.

MORNING SESSION 8:00 A.M. - NOON

Introduction: *Gary Dallin, Independent Consultant for IZA*

Hot Dip Coating – Process Overview: *Ana Domingos, Manager Auto Steel Partnership and GalvInfo Center, International Zinc Association*

The continuous hot-dip galvanizing process is a closely controlled sequence of steps. The process will be outlined in its entirety so that the student can understand how the subsequent course presentations fit together.

Furnace Operations – Atmosphere Control and Annealing: *Gary Dallin*

The fundamentals of coating line operations prior to the strip reaching the coating section will be explained.

Hot Dip Galvanizing Bath Chemistry & Control: *Martin Gagné, Independent Consultant for IZA*

Central to the entire hot-dip coating process is the bonding reaction between the steel and coating metal. A thin layer of zinc is diffusion-bonded to the steel allowing the sheet to be formed into many shapes without loss of coating adhesion. This reaction, and how to control it, receives considerable attention in this module.

AFTERNOON SESSION 1:00–4:45 P.M.

Hot Dip Galvanizing Bath Chemistry & Control (cont.): *Martin Gagné*

Advanced High Strength Steels: *Frank Goodwin, Independent Consultant for IZA*

A review of the most recent product and process developments in this rapidly evolving segment of the coated sheet industry. The focus will be on Advanced High Strength Steels.

Galvanneal – Process and Product: *Gary Dallin*

The process requirements needed to produce high quality galvanneal, along with the metallurgy and microstructure of this coating will be reviewed.

Question and Answer Session

Friday, October 14, 2022

MORNING SESSION 8:00 A.M. – 11:45 A.M.

Coating Weight Control & Air Knives: *Gary Dallin & Frank Goodwin*

Air knives are an integral part of the hot-dip coating process and the many facets of how these systems operate will be presented. The focus will be on optimizing control of coating weight.

Zinc Bath Hardware: *Frank Goodwin*

Molten zinc is very corrosive to the submerged hardware in a zinc bath. Much work is underway to improve the life of pot equipment and will be reviewed in this session.

AFTERNOON SESSION 12:45–4:00 P.M.

Hot Dip Galvanize Products – Defects & Their Avoidance: *Gary Dallin*

Achieving good surface quality is a key part of galvanized sheet production. Common problems will be reviewed along with actions that can be taken to avoid them.

Galvanizing Line Operations – After Pot Processes: *Ana Domingos*

The fundamentals of the finishing operations on a modern coating line are covered.

Review of Key Process Indicators: *Gary Dallin*

A review of the key process indicators that need constant monitoring to ensure minimum downtime and high product quality.

Question and Answer Session

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About this Course

This course provides a comprehensive overview of hot dip galvanized sheet production. The course covers coating line production processes, including annealing, coating weight control, galvannealing, post galvanizing surface treatments, and coated sheet defects, as well as zinc bath management principles and technology.

The course deals primarily with the operation of continuous galvanizing lines, including the metallurgical processes involved. A review and listing of key process variable is included. Time will be allowed in each module for questions, along with general questions at the end of the course.

Who Should Attend?

Anyone interested in expanding his or her knowledge of the basic principles of galvanized steel sheet production. The course is especially beneficial to process engineers, maintenance personnel, production operators, and process related quality assurance staff. R&D engineers, technical sales people, and anyone whose job requires knowledge of how coated sheet is made will benefit. Equipment manufacturers and industry service suppliers can also benefit from this course.

Course Director - Gary W. Dallin, P. Eng.

Gary Dallin has over 50 years of experience with galvanized and prepainted steel sheet products acquired while working as a metallurgist for Stelco Inc. in Hamilton, ON, Canada. Gary held numerous positions in the coated product area including Manager, Metallurgy and Quality Assurance, Cold Roll & Coated Products, Senior Product Metallurgist-Coated, and Manager of Customer Service Metallurgy, dealing with marketplace product issues in the appliance, construction, building products, and automotive industries. Gary is chairman of ASTM Subcommittee A05.07 on Testing of Metallic-Coated Sheet Steel Products, Director of the GalvInfo Center, a registered Professional Engineer in the Province of Ontario, and is President of his own consulting company, Steel Technology Services Inc. in Burlington, ON.

Course Registration

The advanced course registration fee by September 30, 2022 is USD795. Registration after September 30, 2022 is USD895. Advanced/late fees of \$645/\$745 are available for registrants employed by GalvInfo Sponsor companies, and \$695/\$795 for employees of Galvanized Auto Partnership member companies. The registration fee includes a welcoming reception Wednesday evening, lunches, and coffee breaks during the two-day course. Attendees will also receive a USB flash drive containing all the presentations, along with handouts of the speaker slides.

Cancellation / Substitution

Cancellations and registration refunds will be accepted up until October 8, 2022 subject to a USD50 administrative fee. All cancellations must be received in writing prior to the cut-off date.

Hotel Accommodations

A block of rooms has been reserved at the Sheraton Pittsburgh Hotel, 300 West Station Square, Pittsburgh, PA 15219. Room rate is USD179 per night. Meeting rooms are in the Sheraton Pittsburgh Hotel. Please call 1-412-261-2000 and ask for the International Zinc Association IZA/GalvInfo Course to arrange your reservation, or at website:

<https://www.marriott.com/events/start.mi?id=1651169289764&key=GRP>

before cut-off date of October 8, 2022.

Registration Procedure

On line course registration is available at:

<https://cvent.me/Z1A5d3>

Registration information is also available on-line at www.galvinfo.com

**Presented by the International Zinc Association and
the GalvInfo Center**