

Hot-Dip Galvanized Sheet Production Course



December 4-6, 2017

Kingsgate Marriott Conference Center

Cincinnati, Ohio 45219



Sponsored by:
The GalvInfo Center
and
International Zinc Association

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

December 4-6, 2017 – Kingsgate Conference Center at the University of Cincinnati, 151 Goodman St., Cincinnati, OH 45219-2105

Monday, Dec 4, 2017	Registration 4 PM – 6 PM		Reception 6 PM – 8 PM
Tuesday, Dec 5, 2017 Registration 7:30 – 8:00 AM	MORNING SESSION	AFTERNOON SESSION	
	8:00 – 8:15 Introduction – <i>Frank Goodwin</i>	1:00 – 2:15 HD Bath Chemistry and Control II – <i>Martin Gagné</i>	
	8:15 – 9:15 Product and Process Overview – <i>Gary Dallin</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>	
Wednesday, Dec 6, 2017	8:00 – 9:30 Coating Weight Control & Air Knives I – <i>Robert Wilhelm</i>	12:45 – 2:00 Coated Sheet Defects and Their Avoidance – <i>Gary Dallin</i>	
	9:30 – 9:45 BREAK	2:00 – 2:15 BREAK	
	9:45 – 10:30 Coating Weight Control & Air Knives II <i>Robert Wilhelm</i>	2:15 – 3:15 After Pot Processes – <i>Frank Goodwin & Gary Dallin</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 – US\$645 until November 13, 2017, \$745 after November 13 (\$495/\$595 for employees of GalvInfo Sponsors)

Course Elements

Monday, December 4, 2017 – Registration 4 pm – 6 pm, Reception 6 pm – 8 pm

Tuesday, December 5, 2017

MORNING SESSION 8:00 A.M. - NOON

Introduction: *Frank Goodwin, International Zinc Association*

Hot Dip Coating – Process Overview: *Gary Dallin, GalvInfo Center*

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*

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

Wednesday, December 6, 2017

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

Coating Weight Control & Air Knives: *Robert Wilhelm, Objective Control Ltd.*

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: *Frank Goodwin & Gary Dallin*

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

Hot-Dip Galvanized Sheet Production Course

Course Dates: December 4-6, 2017

Kingsgate Marriott Conference Center at the University of Cincinnati

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 variables 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 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 November 13, 2017 is US\$645. Registration after November 13 is US\$745. Advanced/late fees of \$495/\$595 are available for registrants employed by GalvInfo Sponsor companies. The registration fee includes a welcoming reception Tuesday 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 November 22 subject to a US\$50 administrative fee. All cancellations must be received in writing prior to the cut-off date. Substitutions are acceptable until November 29, 2017.

Hotel Accommodations

A block of rooms has been reserved at the Kingsgate Marriott at the University of Cincinnati, 151 Goodman Drive, Cincinnati, OH 45219. Room rate is \$139 per night. Please call 1-888 720-1299 to arrange your reservation and ask for the International Zinc Association IZA/GalvInfo Course at Kingsgate Marriott, or at website www.marriott.com/cvqkg using corporate code ZINZINA.

Registration Procedure

On line course registration is available at:

<https://www.regonline.com/hotdipgalvcourse2017>

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

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the GalvInfo Center**