

2019 Cast Shop Science and Technology Course

May 6-10, 2019; The Stanley Hotel

Athens, Greece

Course Schedule

Monday, May 6- *Liquid Into Products Safely*

07:30 – 08:00	Registration	
08:00 – 08:15	Welcome and Course Introduction	
	Cast Shop Safety	
08:15 – 08:45	<i>Includes molten metal hazards</i>	Grandfield
	Customer's Products: Applications, Alloys, Formats, & Downstream Processes	Grandfield
08:45 – 09:45		
09:45 – 10:00	<i>Break</i>	
10:00 – 11:30	Cast Shop Economics	Grandfield
11:30 – 12:00	Metal Supply- Primary Smelter	Grandfield
12:00 – 13:00	<i>Lunch (provided)</i>	
	Metal Supply- Secondary: Melting, Furnaces, & Refractory Technology	Peterson
13:00 – 15:00		
15:00 – 15:15	<i>Break</i>	
15:15 – 16:15	Dross Generation & Processing	Peterson
16:15 – 17:00	Group Work: Improvement Case Studies	

Tuesday, May 7- *Preparing and Solidifying the Liquid*

08:00 – 08:45	Trace Elements & Impurities: Sources & Effects	Grandfield
08:45 – 09:25	Furnace Fluxing & Alloying	Grandfield
09:25 – 09:45	Inclusion Sources & Measurement	Grandfield
09:45 – 10:00	<i>Break</i>	
10:00 – 11:00	Inclusion Removal	Grandfield
11:00 – 12:00	Degassing	Peterson
12:00 – 13:00	<i>Lunch (provided)</i>	
13:00 – 14:00	A Cast Microstructure	Schumacher
14:00 – 15:00	Aluminum Solidification Fundamentals	Schumacher
15:00 – 15:15	<i>Break</i>	
15:15 – 16:30	Grain Refinement- Theory	Schumacher
16:30 – 17:00	Grain Refinement- Practice	Grandfield

Wednesday, May 8- DC Casting

09:30 – 17:30	Tour and DC Casting Demonstration at Aluminium of Greece, Viotia, Greece (transportation & lunch provided)
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Thursday, May 9- Ingot and DC Casting

08:00 – 09:00	DC Casting Heat Flow	Grün
09:00 – 9:45	DC Water Cooling & Water Systems	Grandfield
09:45 – 10:00	<i>Break</i>	
10:00 – 11:00	Macrosegregation in DC Casting	Eskin
11:00 – 12:00	Hot Tearing Defects	Eskin
12:00 – 13:00	<i>Lunch (provided)</i>	
13:00 – 14:00	Billet Casting Mould Technology	Grandfield
14:00 – 15:00	DC Surface Defects	Grandfield
15:00 – 15:15	<i>Break</i>	
15:15 – 16:00	Q&A What's my defect? Workshop	Grandfield
16:00 – 17:00	Q&A What's my defect? Workshop	
17:00 – 19:00	Course Dinner	

Friday, May 10- More Slab & Homogenization

08:00 – 09:45	Sow and Chain Conveyor Ingot Casting	Grandfield
09:45 – 10:00	<i>Break</i>	
10:00 – 11:00	Slab Cracking Defects	Eskin
11:00 – 12:00	Engineering, Maintenance & Productivity	Grandfield
12:00 – 13:00	<i>Lunch (provided)</i>	
13:00 – 14:00	DC Casting Variants - HDC, EMC etc	Grün
14:00 – 15:00	Rolling Slab Mould Technology	Håkonsen
15:00 – 15:15	<i>Break</i>	
15:15 – 16:00	Slab Casting- Shape Control	Håkonsen
16:00 – 17:00	Homogenisation: Principles, Practice, Problems and Productivity	Grandfield
