





## Zinc/Zinc-Alloy/Aluminum Continuous Sheet Coating Lines - North America

Colour Code → Operating HD Lines

EG Lines

Under Construction

Publicly Announced

Idle Lines

TBA = To Be Announced

**INCH-PC INCH-POUND VERSION**

(Calculates sizes and tons from CoatingLinesSI sheet)

Country	Producer	Location	Line ID	Date Built	Latest Rebuild	Thickness (in)		Width (in)		Furnace Type(*)	Annual Hot-Dip Capacity - 1000's of short tons (k ST)						Total Company Hot-Dip - ST	Annual EG Capacity - k ST				Roll Coatings	Status	Annual Zinc Usage - ST	Comments		
						Min	Max	Min	Max		GI only	GA/GI	AZ	GF or ZM	Al, Al-Si	Combl.		Total	Zn	Zn-Ni	Zn-Fe					Total	
United States	United States Steel Corporation	Midwest Plant Portage, IN	72" GACT	1970	2018	0.022	0.126	24	72.0	H&V-RT	-	500	-	-	-	-	500	5,637	-	-	-	-	Prephos, Chem. Treat.	OP	5,000	Induction GA, roll coater; GI & GA UHSS	
			No.3 CL	1998	2006	0.009	0.035	24	49.0	H-DFRT	270	-	-	-	-	-	270		-	-	-	-	Acrylic	OP	5,000	Junkers coreless main & PM pots; 55Al-Zn until 2006	
		Mon Valley Works, Irvin Plant, Dravosburg, PA	GAL1	1948	2004	0.036	0.169	22	52.0	L-DFRT	220	-	-	-	-	-	220		-	-	-	-	-	OP	6,000	HRS and CRS substrate; Selas NOx DFF line	
			GAL2	1949	1998	0.014	0.063	24	48.0	V-DFRT	176	-	-	-	-	-	176		-	-	-	-	Acrylic	OP	3,000	Construction & appliance. Converted to dual line in 1997	
		Mon Valley Works, Fairless Plant, Fairless Hills, PA	GAL3	1968	1999	0.015	0.079	24	64.0	H-RT	-	330	-	-	-	-	330		-	-	-	-	n/a	OP	6,000	Horizontal RT fce.; gas-fired GA; 1999 new Clecim TM, TL, CT, etc.	
			TBA	-	-	TBA	TBA	TBA	TBA	TBA	-	-	-	-	-	-	TBA		-	-	-	-	-	PA	13000	Oct. 29, 2021 earnings call: \$3 Bn new flat rolled mini-mill, start construction 1H22; includes AHSS galv., HR galv., painting, slitting	
		United States	PRO-TEC Coating Company, Leipsic, OH	PRO-TEC Coating Company, Leipsic, OH	CGL1	1993	2007	0.023	0.102	36	74.0	V-RT	-	600	-	-	-		600	-	-	-	-	Prephos, CT	OP	10,000	US Steel/Kobe Steel JV; 2 roll coaters; UHSS & exposed GA; robot skim; LIBS pot chem. Sensor
					CGL2	1998	2006	0.015	0.067	24	67.0	V-RT	-	500	-	-	-		500	-	-	-	-	Prephos	OP	10,000	US Steel/Kobe Steel JV; roll coater; exposed GA & AHSS; robot skim
					CGL3	2020	-	0.024	0.106	34	65.7	TBA	-	500	-	-	-		500	-	-	-	-	Prephos, CT	OP	11,000	U. S. Steel/Kobe Steel JV; UHSS GEN3 GI, GA - start 2020 (AMM - Sep '17); 2 coating pots
		United States	USS UPI, Pittsburg, CA	USS UPI, Pittsburg, CA	No. 2CC Line	1963	1997	0.0150	0.1265	24	55.5	V-RT	-	400	-	-	-		400	-	-	-	n/a	OP	12,000	Induction GA, RoHS CT; was 50-50 JV of U. S. Steel and POSCO since 1984 to 100% U. S. Steel Feb. 29, 2020	
United States	Wheeling-Nippon Steel, Inc.	Follansbee, WV	No.1 AGL	1988	-	0.014	0.106	24	61.0	H-DFRT	-	287	-	13	100	400	-	-	-	-	OP	6,000	ZAM™ added in 2013-2014; Makes Aluminized stainless; Gas-fired GA furnace; 100% Nishin Steel Co., Ltd. since 2008				
United States	Wheeling-Nippon Steel, Inc.	Follansbee, WV	No.2 CGL	1993	2000	0.008	0.047	24	50.0	H-DFRT	209	-	90	-	-	300	-	-	-	Acrylic	OP	9,000	Construction; Carosel reels; roll coater				
United States	Worthington Industries	Delta, OH	No.1	1997	2008	0.025	0.250	32	62.0	L-DFRT	-	400	-	-	-	400	-	-	-	-	OP	15,000	CQ, culvert, guardrail markets (mostly HR substrate)				
United States	Worthington Industries	Spartan Steel Coating Monroe, MI	No.1	1998	2019	0.018	0.075	28	62.0	V-DFRT	-	600	-	-	-	600	-	-	-	Prephos, CT, Acrylic	OP	9,000	Worthington 52%/Cleveland-Cliffs 48% JV; DFF lining change to fiber; RJC upgrade				

Production Capacity:	Canada	Mexico	USA							Est. Total Zn, sT:	1,030,920
North American - Galvanize Only	674	1,045	5,961	7,680	27,349	← Total GI+GA/GI	1000's ST			CGLs:	1,002,591
- Galvanneal/Galvanize Lines	2,216	2,676	15,278		20,170						
- GALVALUME® & 55Al-Zn	150	463	1,721			2,334					
- GALFAN® ZM or ZAM™	0	0	56			56					
- Aluminized Types I, II	176	0	1,011				1,187				
- TOTAL Hot-Dip	3,215	4,184	24,027				31,460	1000's ST			
- EG Zn	45	53	1,627						1,725		
- EG Zn-Ni	0	0	187						187		
- EG Zn-Fe/other metallic plating	0	0	66						66		
- Total EG	45	53	1,881						1,979	1000's ST	
- Total Hot Dip & EG	3,261	4,237	25,907						33,438	1000's ST	

### North American Line Summary

Type	Total Coating Lines				Operating				Being Built, Major Coating Upgrade				Combi. (Combination CGL & CAL or Pickle & CGL)				Idle				Publicly Announced			
	Canada	Mexico	USA	N.A. Total	Canada	Mexico	USA	N.A. Total	Canada	Mexico	USA	N.A. Total	Canada	Mexico	USA	N.A. Total	Canada	Mexico	USA	N.A. Total	Canada	Mexico	USA	N.A. Total
Hot Dip Lines - TOTAL (all coatings)	9	15	64	88	8	14	55	77	1	0	1	2	0	0	4	4	0	0	1	1	0	1	7	8
Hot Dip Galvanize Lines (GI but no GA)	3	6	28	37	3	6	22	31	0	0	0	0	0	0	1	1	0	0	0	0	0	0	6	6
HDC Lines with GI & GA capability	5	10	36	51	5	9	31	45	0	0	1	1	0	0	3	3	0	0	1	1	0	1	3	4
Lines with 55Al-Zn, GALVALUME capability	1	4	13	18	1	4	9	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
Lines with Galfan capability	0	0	3	3	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lines with ZM, ZAM™ capability	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lines with Aluminizing capability	1	0	4	5	0	0	4	4	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
EG Lines	1	1	10	12	1	1	8	10	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0
<b>Total EGLs + CGLs</b>				<b>100</b>				<b>87</b>				<b>2</b>				<b>4</b>				<b>3</b>				<b>8</b>

Revised Nov. 2021 by GalvInfo Center, a Program of the International Zinc Association, Gary Dallin, with input from AIST GTC members, including E. A. Silva

#### NOTES:

- Production tonnes based on most recent data or recent estimates
- Zinc usage cited is mainly from the 2004 ILZSG World Directory: CG Lines

#### Abbreviations:

- GI = Galvanize
- GA = Galvanneal
- AZ = 55Al-Zn (GALVALUME®, ZINCALUME®, etc.)
- AL = Aluminized ASTM A463 type I (Al-non 9% Si (5 to 11%)), type II (Al, <=0.35%Si)
- ZAM™ Zn-Al-Mg alloy coating
- GF = GALFAN®, 5Al-Zn
- CT = Passivation chemical treatment
- CAGL = (Combination) Continuous Annealing Galvanizing Line
- PGL = (Combination) Pickling-Galvanizing Line

Status Abbreviations	
BB	Being Built
BBE	Being Built EGL
ID	Idle Hot-Dip Line
IDE	Idle EGL
OP	Operating Hot-Dip Line
OPE	Operating EGL
PA	Publicly Announced Line
TBA	To Be Announced

#### (\*) Furnace types

- V = Vertical
- H = Horizontal
- L = Vert & Horiz (may or may not be "L" shaped)
- NA = not applicable / not available

\*Furnace Suffix: DF = Direct Fired; RT = Radiant Tube; IND = Induction; HTC = Heat to Coat