

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

Colour Code → Operating HD Lines

EG Lines

Under Construction

Publicly Announced
TBA = To Be Announced

Idle Lines

METRIC METRIC (SI) VERSION

(Master Sheet - CoatingLinesInLb sheet calculates sizes and tons from this sheet)

Country	Producer	Location	Line ID	Date Built	Latest Rebuild	Thickness (mm)		Width (mm)		Furnace Type(*)	Annual Hot-Dip Capacity - 1000's of metric tonnes (k MT)							Total Company D MT	Annual EG Capacity - k MT				Roll Coatings	Status	Est. Zn Usage: MT/yr.	Comments
						Min	Max	Min	Max		GI only	GA/GI	AZ	GF or ZM	Al, Al-Si	Combi.	Total		Zn	Zn-Ni	other	Total				
Canada	ArcelorMittal	ArcelorMittal Dofasco G. P., Hamilton, ON	No.3	1967	2005	0.20	1.1	610	1321	H-DFRT	-	220	-	-	-	220	-	-	-	-	Chem. Treat.	OP	12,000	Gas fired GA furnace installed 1989		
Canada			No.4	1981	2016	0.25	2.31	610	1537	H-DFRT	100	-	136	-	-	236	-	-	-	-	Acrylic, Chem. Treat.	OP	6,300	Dual pots, cleaner for FH AZ, CMI Blowstab APC; new cleaner; furnace upgrades; new ctg. Pot hardware; dual roll coater		
Canada			No.5	1999	2022	0.51	2.1	863	1829	V-RT	330	-	-	-	160	490	-	-	-	-	Chem. Treat.	OP	7,300	12/23/20 announced upgrade make 160KT Al-Si 2H22, stop GA; Originally "DSG"; a Dofasco/Soltec 80/20 JV; exposed GI & GA; AHSS		
Canada			No.6	2014	-	1.00	4.3	610	1651	H-DFRT	-	650	-	-	-	650	-	-	-	-	Chem. Treat.	OP	7,900	Began operating 2015 (GI, GA, HR HDG, AHSS)		
Canada			ArcelorMittal Windsor Windsor, ON	No.1	1993	2019	0.40	2.1	610	1829	V-DFRT	-	440	-	-	-	440	-	-	-	-	Prephos., Chem. Treat.	OP	6,000	100% AM Dofasco 2013, formerly JV with JFE Steel; formerly DNN Galvanizing renamed DJ Galvanizing Corp. in '04; pre-melt pot '97	
Canada			AM Coteau-du-Lac Coteau-du-Lac, PQ	No. 1	1991	1995	0.23	3.4	610	1372	H-DFRT	-	230	-	-	-	230	-	-	-	-	-	OP	7,000	Formerly Soreveco; 1kg ctg wt golf ball finish; induction GA, Cr ³ & Cr ⁶ CT	
Canada	Materials Science Corp. (MSC)	Rexdale (Toronto), ON	No.1 EG	1968	-	0.20	2.38	450	1524	NA	-	-	-	-	-	-	-	-	-	-	OPE	800	Can coat UHSS YS up to 1517 MPa (220 ksi)			
Canada	Steico	Hamilton Works, Hamilton, ON	3CGL	1968	1997	0.30	1.2	825	1320	L-DFRT	181	-	-	-	-	181	-	-	-	-	OP	8,300	Selas vertical NOx furnace line; nitrogen wiping			
Canada			ZLine	1991	2006	0.58	2.1	910	1830	V-RT	-	470	-	-	-	470	-	-	-	-	OP	17,100	Orig. JV with Metal One 40%; at start a CGL-CAL Combo; world's biggest pot - 390 MT, first robot skim; nitrogen wiping			
Mexico	Galvasid (Grupo Ind. L.M.)	Apodaca, NL, Mexico	No.1	2005	2019	0.34	2.75	610	1525	V-DFRT	160	-	180	-	-	340	-	-	-	-	OP	6,200				
Mexico	Nucor-JFE Steel México (NJSM)	Silao, Guanajuato, Mexico	No.1	2020	-	0.40	2.6	800	1850	V-RT	-	400	-	-	-	400	-	-	-	-	OP	12,100	GI & GA automotive quality; start 5 Mar. 2020			
Mexico	POSCO Mexico	Altamira, Mexico	CGL 1	2009	-	0.40	2.0	800	1900	V-RT	-	400	-	-	-	400	-	-	-	Pre-phos. CT	OP	15,000	Exposed GA, GI and AHSS; pre-melt pot			
Mexico			CGL 2	2014	-	0.40	2.3	800	1860	V-RT	-	500	-	-	-	500	-	-	-	Pre-phos. CT	OP	15,000	Start Jan. 2014; exposed GI & GA; AHSS 780; pre-melt pot			
Mexico	Ternium SRL de C.V.	San Nicolás de los Garza, NL, Mexico	H-GNo.1	1975	2004	0.20	1.9	610	1295	H-DFRT	130	-	-	-	130	-	-	-	-	OP	5,500	In-line paint line added				
Mexico			H-GNo.2	1992	2000	0.25	2.7	610	1295	H-DFRT	-	136	-	-	-	136	-	-	-	OP	5,300	Formerly HYSLA-GALVAK				
Mexico			H-GNo.3	1998	2000	0.20	1.2	686	1270	H-DFRT	91	-	59	-	-	150	-	-	-	OP	2,000					
Mexico			Planta Monclova, Coahuila De Zaragoza, Mexico	IMS A	1996	-	0.20	1.9	610	1270	H-DFRT	159	-	91	-	-	250	-	-	-	OP	5,600	Formerly IMSA Acero			
Mexico			Planta Universidad, Monterrey, Mexico	No.2	1968	2003	0.25	2.0	610	1270	L-DFRT	-	145	-	-	-	145	-	-	-	OP	5,800	Formerly IMSA Acero			
Mexico			No.3	1981	2019	0.206	3.4	610	1219	H-DFRT	136	-	90	-	-	226	-	-	-	-	OP	6,500				
Mexico			No.4	1996	-	0.28	0.9	610	1270	V-DFRT	272	-	-	-	-	272	-	-	-	-	OP	10,300				
Mexico			Centro Industrial Ternium, Pesquería, NL, Mexico	No. 1	2019	-	0.31	1.5	610	>1650	V-RT	-	356	-	-	-	356	-	-	-	OP	15,000	Start-up Dec. 16, 2019, also with a new adjacent paint line			
Mexico			Tenigal SRL de CV, Pesquería (Monterrey), NL	Tenigal 1	2013	-	0.40	2.6	700	1850	V-RT	-	400	-	-	-	400	-	-	-	L-treatment	OP	15,000	Sept. 2013 startup; 51% Ternium, 49% Nippon Steel. Exposed & AHSS to 980; 2 pots (GI, GA); \$300M investment		
Mexico			Tenigal 2	TBD	-	TBD	TBD	TBD	TBD	TBD	-	430	-	-	-	430	-	-	-	-	PA	10,900	\$300M investment publicly announced April 2016 for planned late 2019 start-up.			
Mexico	Grupo Villacero	Guadalupe, NL, Mexico	EG	1990	-	0.30	3.17	6	711	NA	-	-	-	-	-	-	-	-	-	OPE	100	Acquired in 1998 by Villacero from Fisacero				
Mexico			Zincacero	HDGL	1994	2020	0.254	1.524	609	1244	H-RT	-	91	-	-	-	91	-	-	-	OP	3,000	SMS rebuild. SAE 1006, 1008 and 1010 and steel strip products with yield strengths between 210 and 560 MPa			
United States	AM/NS Calvert (JV of Arcelor Mittal Steel and Nippon Steel Corp.)	Calvert (Mobile), AL	HDGL1	2011	2015	0.50	2.3	920	1870	V-RT	-	500	-	-	-	500	-	-	-	Pre-phos	OP	14,600	Exposed GI, GA; e-mag stabilizer; 2 main pots; side trim; Dreyer furnace w/oxidation control chamber			
United States			HDGL3	2012	2017	0.50	2.5	800	1670	V-RT	-	500	-	-	-	500	-	-	-	Pre-phos. CT	OP	14,600	GI, GA; 2 main pots; Q&P GEN3			
United States			HDGL4	2011	2014	0.30	2.5	800	1670	L-DFRT	220	-	stop 2013	-	300	520	-	-	-	CT, Acrylic	OP	7,700	GI, 55Al-Zn until stop 42013, Al-Si, CMI-EFCO; side trim; 3 main pots, 1 pre-melt; Al-Si announced Apr.'16			
United States	BlueScope Steel	Eval. "Eastern US" site to be announced	TBA	TBA	-	TBA	TBA	TBA	TBA	TBA	-	TBA	-	-	TBA	-	-	-	-	PA	-	Sept. 21, 2021* Australian steelmaker BlueScope may build a new greenfield EAF mill with a steel painting and coating facility ... "East coast of the US."				
United States	Cleveland-Cliffs Inc.	Burns Harbor, Burns Harbor, IN	HDCL	1992	-	0.51	2.0	915	1829	V-RT	-	550	-	-	-	550	-	-	-	Prephos. CT	OP	18,000	Induction GA; roll coater; entry & exit auto inspection			
United States			Cleveland Works, Cleveland, OH	HDGL	2006	2013	0.55	2.5	990	1830	V-DFRT	-	650	-	-	-	650	-	-	-	CT	OP	25,000	Converted 1000 fpm LTV CAL to auto CGL; added GA '07; electromag. Stabilizer		
United States			Columbus, OH	HDGL	2000	2005	0.50	1.7	800	1829	V-RT	-	400	-	-	-	400	-	-	-	Prephos	OP	19,950	L-S II EG line converted to CGL; 100% GA, 2 main pots + pre-melt; e-mag stabilizer		
United States			Dearborn Works, Dearborn, MI	HDGL	2011	2016	0.57	2.7	914	1829	V-RT	-	454	-	-	-	454	-	-	-	Pre-phos	OP	11,000	Exposed GI, GA; NexMet™ Q&P GEN3 AHSS; Severstal NA up to 2014		
United States			Indiana Harbor-West, East Chicago, IN	No.2	1963	2016	0.38	4.8	610	1830	H-DFRT	-	557	-	-	-	557	-	-	-	OP	28,800	Gas fired GA; horizontal fce.; 577k MT cap.; 28.8 kt Zn			
United States			Indiana Harbor-East, East Chicago, IN	5 OGL	1968	2004	0.51	2.5	610	1830	H-RT	-	0	-	-	-	0	-	-	-	ID	0	IDLE - Gas fired GA; hot bridge & new RT furnace 1997, ceramic tubes; formerly ISPAT-Inland; 376 KMT cap.			
United States			No.2 EG	1991	1995	0.48	1.9	1900	NA	-	-	-	-	-	-	-	-	-	-	-	OPE	10,000	Gravitel process, 21 plating cells			
United States			Middletown Works, Middletown, OH	No.3	1961	2002	0.53	3.5	810	1880	H-DFRT	508	-	-	-	-	508	-	-	-	OP	22,000	Nitrogen wiping; not automotive exposed			
United States			No.4	1971	-	0.38	3.5	610	1575	V-DFRT	-	-	-	-	426	426	-	-	-	-	OP	0	2 coreless pots; Aluminized type I, II on C-steel & 40x stainless			
United States			Rockport Works, Rockport, IN	CGL	1998	2003	0.46	2.0	1040	2032	V-RT	-	907	-	-	-	907	-	-	-	Prephos	OP	29,000	Max speed 750 fpm, coil wt. 70,000 lb.; Widest N.A. Ctg line		
United States	Cleveland-Cliffs Kote L.P., New Carlisle, IN	KOGL	1991	2004	0.38	2.3	610	1829	V-RT	-	454	-	-	-	454	-	-	-	Prephos	OP	7,600	In-line side trimmer; exposed GA; all GA				
United States	EG	1991	-	0.43	2.0	610	1829	NA	-	-	-	-	-	-	-	-	-	-	OPE	6,800	24 Gravitel plating cells; Ni flash in 25th					
United States	California Steel Industries (CSI)	Fontana, CA	No.1	1966	1999	0.38	4.3	610	1524	H-DFRT	-	430	-	-	-	430	-	-	-	OP	12,000					
United States			No.2	1998	-	0.25	1.5	610	1321	V-DFRT	-	300	-	-	-	300	-	-	-	OP	11,000	Subsidiary of JFE Steel and CVRD.				
United States	Gregory Industries	Canton, OH	No.1	1980	2018	0.76	4.57	51	495	L-IND	-	132	-	-	-	132	-	-	-	OP	6,185	Cold heat to coat line with preheat induction furnace; thick ctgs. no cut edge				

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EG Lines

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Publicly Announced

Idle Lines

METRIC METRIC (SI) VERSION

(Master Sheet - CoatingLinesInLb sheet calculates sizes and tons from this sheet)

Country	Producer	Location	Line ID	Date Built	Latest Rebuild	Thickness (mm)		Width (mm)		Furnace Type(*)	Annual Hot-Dip Capacity - 1000's of metric tonnes (k MT)						Total Company D MT	Annual EG Capacity - k MT				Roll Coatings	Status	Est. Zn Usage: MT/yr.	Comments	
						Min	Max	Min	Max		GI only	GA/GI	AZ	GF or ZM	Al, Al-Si	Combi.		Total	Zn	Zn-Ni	other					Total
United States	Mon Valley Works, Fairless Plant, Fairless Hills, PA	Dravosburg, PA	GAL2	1949	1998	0.36	1.6	610	1219	V-DFRT	160	-	stop 2000	-	stop 1982	-	160	635	-	-	-	-	Acrylic	OP	2,500	Construction & appliance. Converted to dual line in 1997
United States		GAL3	1968	1999	0.37	2.0	610	1626	H-RT	-	299	-	-	-	-	-	299	635	-	-	-	-	n/a	OP	5,400	Horizontal RT for; gas-fired GA; 1999 new Clecim TM, TL, CT, etc.
United States		TBA	-	-	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	-	-	-	-	TBA	635	-	-	-	-	PA	13,000	Oct. 29, 2021 earnings call: \$3 Bn new flat rolled mini-mill, start construction 1H22; includes AHSS galv., HR galv., painting, slitting	
United States		CGL1	1993	2007	0.58	2.6	914	1880	V-RT	-	544	-	-	-	-	-	544	907	-	-	-	-	Prephos, CT	OP	9,500	US Steel/Kobe Steel JV; 2 roll coaters; UHSS & exposed GA; robot skim; LIBS pot chem. Sensor
United States		CGL2	1998	2006	0.38	1.7	610	1702	V-RT	-	454	-	-	-	-	-	454	907	-	-	-	-	Prephos	OP	9,500	US Steel/Kobe Steel JV; roll coater, exposed GA & AHSS; robot skim
United States		CGL3	2020	-	0.6	2.7	870	1670	TBA	-	454	-	-	-	-	-	454	907	-	-	-	-	Prephos, CT	OP	10,000	U. S. Steel/Kobe Steel JV; UHSS GEN3 GI, GA - start 2020 (AMM - Sep '17); 2 coating pots
United States	US Steel	US Steel UPI, Pittsburg, CA	No. 2CC Line	1963	1997	0.38	3.21	610	1410	V-RT	-	363	-	-	-	-	363	907	-	-	-	-	n/a	OP	11,200	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	-	0.36	2.7	610	1549	H-DFRT	-	260	-	12	91	-	363	635	-	-	-	-	-	OP	5,400	ZAM™ added in 2013-2014; Makes Aluminized stainless; Gas-fired GA furnace; 100% Nisshn Steel Co., Ltd. since 2008
United States	Wheeling-Nippon Steel, Inc.	Follansbee, WV	No.2 CGL	1993	2000	0.20	1.2	610	1270	H-DFRT	190	-	-	82	-	-	272	635	-	-	-	-	Acrylic	OP	8,600	Construction; Carosel reels; roll coater
United States	Worthington Industries	Delta, OH	No.1	1997	2008	0.64	6.35	813	1575	L-DFRT	-	363	-	-	-	-	363	907	-	-	-	-	OP	13,600	CQ, culvert, guardrail markets (mostly HR substrate)	
United States	Worthington Industries	Spartan Steel Coating, Monroe, MI	No.1	1998	2019	0.46	1.9	711	1575	V-DFRT	-	544	-	-	-	-	544	907	-	-	-	-	Prephos, CT, Acrylic	OP	8,000	Worthington 52%/Cleveland-Cliffs 48% JV; DFF lining change to fiber; RJC upgrade

Production Capacity:

North American - Galvanize Only

- Galvanneal/Galvanize Lines

- GALVALUME® & 55Al-Zn

- GALFAN®, ZM or ZAM™

- Aluminized Types I, II

- TOTAL Hot-Dip

- EG Zn

- EG Zn-Ni

- EG Zn-Fe/other metallic plating

- Total EG

- Total Hot Dip & EG

Canada Mexico USA

611 948 5,408

2,010 2,428 13,860

136 420 1,561

0 0 51

160 0 917

2,917 3,796 21,797

41 48 1,476

0 0 170

0 0 60

41 48 1,706

2,958 3,844 23,503

6,967 24,811

18,298

2,117

51

1,077

28,540

1,565

170

60

1,795

30,335

1,000's MT

Total capacity estimated as of November 2021 - DOES NOT include BB and PA lines

Est. Total Zn MT

935,235

CGLs:

909,535

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
HDS 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	0	0	2	2	0	0
Total EGLs + CGLs	100			100				87				2				4				3			8	

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 or estimated

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

(*) 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

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