

CWI GEN⁴ WELDING

**EVOLUTIONARY
WELDING
WIRE**

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DESIGNED FOR **DEMANDING** APPLICATIONS



- Automotive
- Petrochemical Process Manufacturing
- Oil & Gas
- Power Generation
- Fabrication
- Chemical
- Food & Beverage Industry



ABOUT US

Central Wire Group of Companies is proud to reintroduce its welding consumables to the global market! CWI Gen⁴ Welding is the innovative and advanced new line of specialty alloy welding wire products produced by CWI. Backed by over 50 years of experience in stainless steel, nickel, and copper alloy wire production, manufactured in Canada and the United States, CWI Gen⁴ Welding Wire is available from stock wherever you need it.

Gen⁴ products are available for submerged arc welding (SAW), tungsten inert gas welding (TIG) and gas metal arc welding (MIG), to name a few processes. The product range of grades includes stainless steel, nickel and high nickel-based alloys, and copper, with specialty alloys available upon request.

Numerous packaging and shipping options are available direct from our multiple manufacturing and distribution locations so you can get what you need, when and where you need it.



Gen⁴ Grade Summary

STAINLESS

NITRONIC®

209, 218

GEN 300 SERIES

307, 308, 308H, 308L, 308Si, 308LSi, 309, 309L, 309Si, 309LSi, 23122L, 310, 312, 316, 316L, 316Si, 316LSi, 317L, 320LR, 347, 383, 385, 16-8-2, 330

GEN 400 SERIES

409Nb, 410, 410NiMo, 420, 430

GEN HIGH STRENGTH

630 (17-4PH)

GEN DUPLEX

2209 (Duplex),
2594 (Super Duplex)

NICKEL

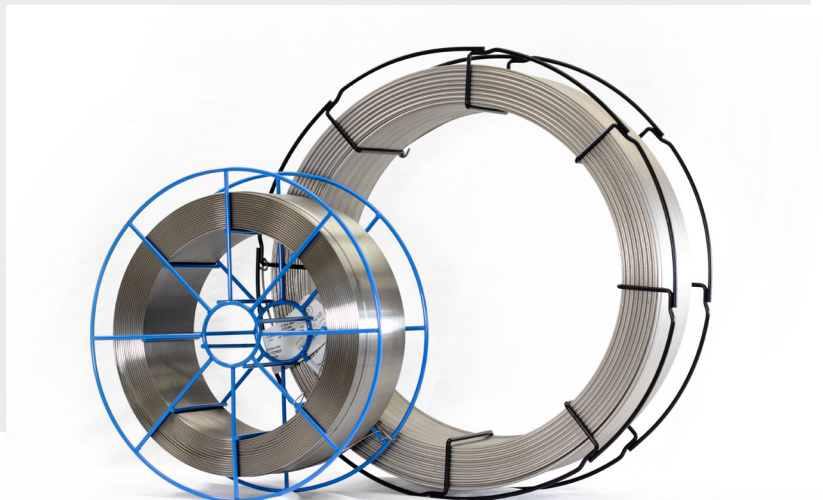
GEN NICKEL

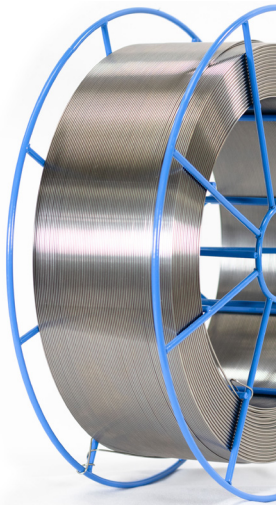
55, 59, 72, 99, 208, 276, 418, 606, 617, 622, 622LHIW, 625, 625LHIW, 718, 825, 686

COPPER

GEN 300 SERIES

413, C189 (Deoxidized Copper),
C656 (Silicon Bronze)





Recommended Welding Procedures for Gen4 Stainless Steel Welding Wire					
Process	Diameter of Wire		Voltage (V)	Amperage (A)	Gas
TIG	0.035 in	0.9 mm	12-15	60-90	100% Argon
	0.045 in	1.1 mm	13-16	80-110	100% Argon
	1/16 in	1.6 mm	14-18	90-130	100% Argon
	3/32 in	2.4 mm	15-20	120-175	100% Argon
	1/8 in	3.2 mm	15-20	150-220	100% Argon
MIG	0.030 in	0.8 mm	24-28	140-180	99% Argon + 1% Oxygen or 97% Argon + 3% CO2
	0.035 in	0.9 mm	26-29	160-210	99% Argon + 1% Oxygen or 97% Argon + 3% CO2
	0.045 in	1.1 mm	28-32	180-250	99% Argon + 1% Oxygen or 97% Argon + 3% CO2
SAW	1/16 in	1.6 mm	29-33	200-280	Suitable Flux may be used
	3/32 in	2.4 mm	28-30	275-350	Suitable Flux may be used
	1/8 in	3.2 mm	29-32	350-450	Suitable Flux may be used
	5/32 in	4.0 mm	30-33	400-550	Suitable Flux may be used

Typical Chemical Composition for Gen4 Stainless Wires															
Product	Specifications AWS A5.9	C	Mn	Si	Fe	Cr	Mo	Ni	Nb	Nb+Ta	N	S	P	Cu	W
GEN 209Mod		0.03	5.3	0.6		21.8	2.1	11.8			0.31	0.002	0.03	0.42	
GEN 218	ER218	0.064	8.2	3.9		16.3	0.37	8.4			0.14	0.001	0.03	0.37	
GEN 307	18 8 Mn	0.06	6.55	0.86	Bal	17.99	0.17	8.08				0.01	0.02	<0.20	
GEN 308/308H	ER308/308H	0.05	1.8	0.43	Bal	20.1	0.08	9.7				0.010	0.010	0.11	
GEN 308/308L	ER308L	0.019	1.72	0.46	Bal	20.8		10.1				0.003	0.013		
GEN 308Si/308LSi	ER308LSi	0.018	1.89	0.85	Bal	19.8	0.08	9.65				0.011	0.02		
GEN 309/309L	ER309L	0.015	1.65	0.04	Bal	23.4	0.08	13.6				0.01	0.02	0.06	
GEN 309Si/309LSi	ER309LSi	0.015	1.9	0.83	Bal	23.3	0.08	13.8				0.01	0.02	0.06	
GEN 309 LMo	23 12 2L														
GEN 23 12 2 L	309Lmo	0.01	1.4	0.34	Bal	21.3	2.6	14.8				0.002	0.02	0.12	
GEN 310	ER310	0.12	1.65	0.40	Bal	25.9	0.09	20.7				0.001	0.012	0.063	
GEN 312	ER312	0.10	1.8	1.8	Bal	30.2	0.17	8.9				0.01	0.02		
GEN 316/316L	ER316L	0.01	1.7	0.37	Bal	18.5	2.4	12.2				0.01	0.02	0.2	
GEN 316Si/316LSi	ER316LSi	0.016	1.7	0.84	Bal	18.4	2.5	11.9				0.01	0.02	0.16	
GEN 317L	ER317L	0.018	1.41	0.44	Bal	18.91	3.5	13.63				0.011	0.02	0.13	
GEN 320LR	ER320LR	0.007	1.84	0.07	Bal	20.02	2.38	32.82	0.23			0.001	0.012	3.35	
GEN 330	ER330	0.22	1.8	0.58	Bal	16.5	0.13	35.1				0.010	0.015	0.05	
GEN 347	ER347	0.05	1.7	0.46	Bal	19.5	0.21	9.1		0.6		0.01	0.02	0.11	
GEN 383	ER383	0.025	1.4	0.26	Bal	26.7	3.4	31				0.002	0.013	1.3	
GEN 385	ER385	0.019	2.05	0.35	Bal	20.5	4.6	25.1				0.015	0.014	1.6	
GEN 16-8-2	16-8-2	0.053	1.38	0.44	Bal	15.78	1.27	8.65				0.001	0.014	0.09	
GEN 409Nb	ER409Nb	0.03	0.52	0.53	Bal	11.34	0.042	0.27	0.40			0.002	0.021	0.02	
GEN 410	ER410	0.1	0.45	0.38	Bal	12.5	0.23	0.24				0.002	0.023	0.15	
GEN 410NiMo	ER410NiMo	0.023	0.46	0.44	Bal	11.75	0.5	4.7				0.002	0.013	0.04	
GEN 420	ER420	0.29	0.45	0.35	Bal	13.2						0.008	0.014		
GEN 430	ER430	0.025	0.37	0.28	Bal	16.13	0.055	0.32				0.004	0.023	0.23	
GEN 630	ER630	0.02	0.7	0.42	Bal	15.6	0.13	4.6		0.25		0.02	0.02	3.3	
GEN 2209	ER2209	0.01	1.6	1.6	Bal	22.85	3.2	8.6			0.14	0.001	0.018	0.12	
GEN 2594	ER2594	0.01	0.6	0.6	Bal	25	3.9	9.2			0.25	0.01	0.02	0.09	0.02

*EN ISO 14343

GEN⁴ COPPER WELDING WIRE

Typical Chemical Composition for Gen4 Copper Wires

Product	Specifications AWS A5.7	C	Mn	Si	Fe	Cr	Mo	Ni	P	Al	Ti	Cu	Fe	Pb	Zn	Sn
GEN 413 (FM 67)	ERCuNi		0.78	0.025	0.55			30.8	0.0015		0.4	Bal		0.005		
GEN C189	ERCu (C18980)		<0.10	<0.10					<0.01	<0.01		99.2		<0.01		<0.01
GEN 656	ERCuSi-A		1.35	3.38	<0.01					<0.01		Bal		<0.01	<0.01	<0.01

GEN⁴ NICKEL WELDING WIRE

Recommended Welding Procedures for Gen4 Nickel Welding Wire

Process	Diameter of Wire		Voltage (V)	Amperage (A)	Gas
TIG	0.035 in	0.9 mm	12-15	60-90	100% Argon
	0.045 in	1.1 mm	13-16	80-110	100% Argon
	1/16 in	1.6 mm	14-18	90-130	100% Argon
	3/32 in	2.4 mm	15-20	120-175	100% Argon
	1/8 in	3.2 mm	15-20	150-220	100% Argon
MIG	0.035 in	0.9 mm	26-29	150-190	75% Argon + 25% Helium
	0.045 in	1.2 mm	28-32	180-220	75% Argon + 25% Helium
	1/16 in	1.6 mm	29-33	200-250	75% Argon + 25% Helium
SAW	3/32 in	2.4 mm	28-30	275-350	Suitable Flux may be used
	1/8 in	3.2 mm	29-32	350-450	Suitable Flux may be used
	5/32 in	4.0 mm	30-33	400-550	Suitable Flux may be used

Typical Chemical Composition of Gen4 of Nickel Wires

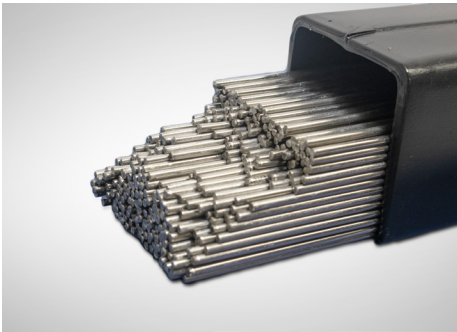
Product	Specifications AWS A5.14	C	Mn	Si	Fe	Cr	Mo	Ni	Nb+Ta	W	S	P	Al	Ti	Cu	Co	V	B
GEN 55		0.0635	0.44	0.14	42.89			55.20			0.002		0.03		0.60			
GEN 59	ERNiCrMo-13	0.004	0.19	0.001	0.10	23	15.8	Bal.			0.001	0.003	0.30		0.01	0.01		
GEN 72	ERNiCr-4	0.01	0.09	0.03	0.40	42.20	0.01	56.40			<0.001	0.004		0.53	<0.01			
GEN 99	ERNi-CI (AWS AS.15)	0.004	0.01	0.11	0.15			99.50			0.001				0.01			
GEN 208 (FM 61)	ERNi-1	0.04	0.38	0.57	0.18			95.50			0.003	0.003	0.10	2.95	0.015			
GEN 276	ERNiCrMo-4	0.01	0.55	0.04	5.50	15.55	16.10	Bal		3.65	0.002	0.009						
GEN 418 (FM 60)	ERNiCu-7	0.056	3.40	0.40	0.23			64.00			0.001	0.002	0.19	2.10	29.4			
GEN 606 (FM 82)	ERNiCr-3	0.03	2.85	0.22	1.10	20.40		72.90	2.50		0.001	0.003						
GEN 617 (FM 617)	ERNiCrCoMo-1	0.06	0.20	0.11	0.75	21.80	9.05	Bal			0.001	0.005	1.25	0.25		12.45		
GEN 622/622LHIW (FM 622)*	ERNiCrMo-10	0.008	0.20	0.04	3.10	21.50	13.50	Bal		3.50	0.002	0.005						
GEN 625/625LHIW (FM 625)*	ERNiCrMo-3	0.01	0.03	0.05	0.34	22.30	8.80	64.50	3.56		0.008	0.010	0.19	0.22	0.01			
GEN 686	ERNiCrMo-14	0.009	0.27	0.03	0.23	21.40	15.90	Bal		3.40	<0.01	0.001	0.21	0.11	0.01			
GEN 718 (FM 718)	ERNiFeCr-2	0.045	0.05	0.06	17.7	18.50	2.90	53.80	5.18		0.001	0.007	0.55	0.95				0.003
GEN 825 (FM 65)	ERNiFeCr-1	0.01	0.50	0.25	32.7	21.50	3.10	39.50			0.002	0.015	0.14	0.85	1.9			

*Low Heat Input Wire

GEN⁴ WIRE DIAMETERS

Wire Diameters by Welding Type						
MIG		TIG		Sub Arc		Sample Sizes of Diameters
Imperial	Metric	Imperial	Metric	Imperial	Metric	
0.023 in	0.6 mm	1/16 in	1.6 mm	5/64 in	2.0 mm	
0.030 in	0.8 mm	3/32 in	2.4 mm	3/32 in	2.4 mm	
0.035 in	0.9 mm	1/8 in	3.2 mm	1/8 in	3.2 mm	
0.045 in	1.14 mm	5/32 in	4.0 mm	5/32 in	4.0 mm	
0.047 in	1.2 mm	3/16 in	4.8 mm	1/16 in	1.6mm	
1/16 in	1.6 mm	.035	0.9mm			
		.045	1.14mm			

Note: Unless a customer specifies that the exact metric size is required, standard imperial size will be substituted.
For example, 0.045 inches will be supplied for 1.2mm wire unless exact metric size is specified at the time of order.

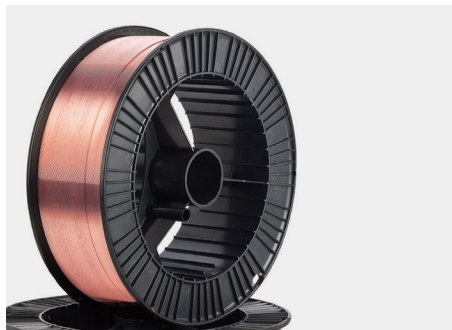


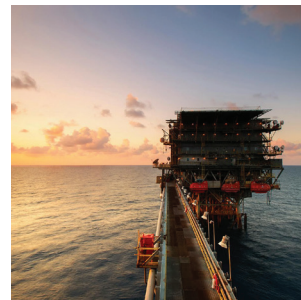
GEN⁴ PACKAGING OPTIONS

Typical Chemical Composition of Gen4 of Nickel Wires					
Item	Standard Packaging	Pallet Weight	MIG (GMAW)	TIG (GTAW)	SUB ARC (SAW)
2 lbs (0.9 kg) Spool	20 Spools - 40 lbs (18 kg)/box	240, 480 lbs (216 kg)	A		
10 lbs (4.5 kg) Spool	4 Spools - 40 lbs (18 kg)/box	48, 480 lbs (216 kg)	A		
33 lbs (15 kg) Pastic Spool	1 Spool - 33 lbs (15 kg)/box	42, 1,386 lbs (629 kg)	S		
33 lbs (15 kg) Wire Spool	1 Spool - 33 lbs (15 kg)/box	42, 1,386 lbs (629 kg)	S		
50 lbs (23 kg) Fibre Spool	24 Spools/Pallet	24, 1,200 lbs (544 kg)	S		
60 lbs (27 kg) Coil	1 Coil - 60 lbs (27 kg)/box	20, 1,200 lbs (998 kg)			S
10 lbs (4.5 kg) Tubes (36")	3 Tubes - 30 lbs (13.5 kg)/box	35, 1,050 lbs (478 kg)		S	
400 lbs (181 kg) Carton/Box TIG (36") BULK	2 Cartons/Pallet	800 lbs (363 kg)		A	
250 lbs (113 kg) Reel	3 Reels/Pallet	750 lbs (340 kg)	A		
500 lbs (227 kg) Reel	3 Reels/Pallet	1,500 lbs (680 kg)	A		
250 lbs (113 kg) Gen Pack	2 Packs/Pallet or 4	500 lbs (227 kg)	A		
500 lbs (227 kg) Gen Pack	2 Packs/Pallet or 4	1,000 lbs (454 kg)	A		
500 lbs (227 kg) Pay-off Pack	4 Packs/Pallet	2,000 lbs (907 kg)			A

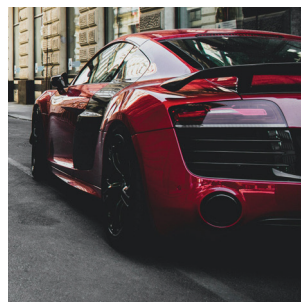
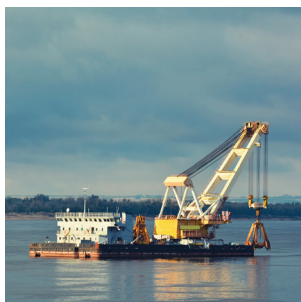
S - Standard Packaging (may vary by alloy)

A - Available upon request





CWI GEN⁴ WELDING



Production Facilities:

UNITED STATES

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Houston, TX 77084

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