TM-81N1

FLAT & HORIZONTAL

AWS E80T1-Ni1C/MJ H8

Benefits:

- excellent CVN toughness for critical applications
- high deposition rates help increase productivity
- low hydrogen to minimize risk of hydrogen embrittlement
- 1% Nickel weld deposit provides atmospheric corrosion resistance

Typical Applications:

- structural fabrication
- bridge fabrication
- weathering steels
- heavy equipment

Typical Weld Metal Chemistry:

	100% CO_2	75% Ar/25% CO_2
Carbon	0.075	0.06
Manganese	1.26	1.40
Silicon	0.54	0.65
Phosphorus	0.011	0.007
Sulphur	0.008	0.011
Nickel	0.98	0.91

Typical Mechanical Properties (AW):

Tensile Strength (psi)	91,000 (628 MPa)	96,000 (662 MPa)
Yield Strength (psi)	80,000 (552 MPa)	88,000 (607 MPa)
Elongation % in 2" (50mm)	26%	25%

Typical Charpy V-notch Impact Values (AW):

Avg. at -20°F (-30°C)	37 ft.lb. (50J)	45 ft.lb. (61J)
Avg. at -40°F (-40°C)	22 ft.lb. (30J)	35 ft.lb. (48J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
1/16" (1.6 mm)	170-350	24-31	1"(25 mm)
5/64" (2.0 mm)	240-520	26-31	1"(25 mm)
3/32" (2.4 mm)	400-650	27-35	1-1/4"(32 mm)

Shielding Gas: 100% CO_2, 75-80% Ar/Balance CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E80T1-Ni1C H8, E80T1-Ni1M H8
- AWS A5.29M, E550T1-Ni1C H8, E550T1-Ni1M H8
- ASME SFA 5.29, E80T1-Ni1C H8, E80T1-Ni1M H8
- CWB, 100% CO_2, E550T-Ni1C H8
- CWB, 75-90% Ar/Balance CO_2, E550T-Ni1M-H8
- ABS, 100% CO_2, E80T1-Ni1CJ H8

TM-811N1

ALL POSITION

AWS E81T1-Ni1C/MJ H4

Benefits:

- excellent CVN toughness for critical applications
- high deposition rates help increase productivity
- low hydrogen to minimize risk of hydrogen embrittlement
- 1% Nickel weld deposit provides atmospheric corrosion resistance

Typical Applications:

- structural fabrication
- bridge fabrication
- weathering steels
- heavy equipment

Typical Weld Metal Chemistry:

	100% CO_2	75% Ar/25% CO_2
Carbon	0.03	0.06
Manganese	1.09	1.39
Silicon	0.32	0.53
Phosphorus	0.007	0.009
Sulphur	0.005	0.008
Nickel	1.01	1.00

Typical diffusible hydrogen:

2.4 ml/100g	3.0 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	83,000 (572 MPa)	93,000 (641 MPa)
Yield Strength (psi)	73,000 (503 MPa)	85,000 (586 MPa)
Elongation % in 2" (50mm)	26%	25%

Typical Charpy V-notch Impact Values (AW):

Avg. at -40°F (-40°C)	65 ft.lb. (88J)	40 ft.lb. (54J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	125-250	24-28	3/4"(19 mm)
.052" (1.4 mm)	125-300	24-27	3/4"(19 mm)
1/16" (1.6 mm)	150-300	24-27	1"(25 mm)

Shielding Gas: 100% CO_2, 75-80% Ar/Balance CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E71T1-Ni1CJ H4, E81T1-Ni1MJ H4
- AWS A5.29M, E551T1-Ni1CJ H4, E551T1-Ni1MJ H4
- ASME SFA 5.29, E81T1-Ni1CJ H4, E81T1-Ni1MJ H4
- CWB, 100% CO_2, E551T-Ni1C-JH8
- CWB, 75-80% Ar/Balance CO_2, E551T-Ni1M-JH8
- ABS, 100% CO_2, 3YSA
- AWS D1.8, 75% Ar/25% CO_2 (1/16" diameter electrode)

Formula XL®-8Ni1

ALL POSITION

AWS E81T1-Ni1MJ H8

Benefits:

- excellent wetting characteristics for uniform bead appearance
- excellent slag release for reduced post weld cleanup time
- low hydrogen to minimize risk of hydrogen embrittlement
- excellent deposition rates for increased productivity

Typical Applications:

- ship and barge construction
- pressure vessels
- structural applications
- heavy equipment

Typical Weld Metal Chemistry:

	75% Ar/25% CO_2
Carbon	0.08
Manganese	1.35
Silicon	0.40
Phosphorus	0.014
Sulphur	0.011
Nickel	1.06

Typical diffusible hydrogen: 4.4 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	96,000 (662 MPa)
Yield Strength (psi)	86,000 (593 MPa)
Elongation % in 2" (50mm)	24%

Typical Charpy V-notch Impact Values (AW):

Avg. at -20°F (-30°C)	93 ft.lb. (126J)
Avg. at -40°F (-40°C)	85 ft.lb. (115J)
Avg. at -60°F (-50°C)	63 ft.lb. (85J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	100-300	23-28	7/8"(22 mm)
1/16" (1.6 mm)	250-450	25-31	1"(25 mm)

Shielding Gas: 75-80% Ar/Balance CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E81T1-Ni1MJ H8
- AWS A5.29M, E551T1-Ni1MJ H8
- ASME SFA 5.29, E81T1-Ni1MJ H8
- ABS, 75% Ar/25% CO_2, 3YSA H10
- DNV, 75% Ar/25% CO_2, IV YMS

FabCO® 803

TM-811N2

ALL POSITION

AWS E81T1-Ni2C/MJ H4, E81T1-Ni2MJ H4

Benefits:

- fast-freezing slag for excellent out-of-position performance
- low spatter for reduced post weld cleanup
- excellent arc characteristics for enhanced operator appeal
- high impact strengths at low temperatures for severe applications

Typical Applications:

- weathering steels
- offshore construction
- shipbuilding
- HSLA steels

Typical Weld Metal Chemistry:

	100% CO_2	75% Ar/25% CO_2
Carbon	0.04	0.05
Manganese	1.00	1.25
Silicon	0.20	0.40
Phosphorus	0.010	0.010
Sulphur	0.012	0.010
Nickel	1.84	2.00

Typical diffusible hydrogen:

2.6 ml/100g	2.7 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	88,000 (609 MPa)	96,000 (660 MPa)
Yield Strength (psi)	81,000 (535 MPa)	86,000 (596 MPa)
Elongation % in 2" (50mm)	27%	24%

Typical Charpy V-notch Impact Values (AW):

Avg. at -40°F (-40°C)	72 ft.lb. (98J)	55 ft.lb. (74J)
Avg. at -60°F (-50°C)	68 ft.lb. (92J)	44 ft.lb. (60J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	100-250	22-28	3/4"(19 mm)
.052" (1.4 mm)	200-300	25-28	3/4"(19 mm)
1/16" (1.6 mm)	150-300	25-27	1"(25 mm)

Shielding Gas: 100% CO_2, 75-80% Ar/Balance CO_2

Type of Current: DCEP

Approvals and Conformances:

Hobart and Tri-Mark:

- AWS A5.29, E81T1-Ni2CJ H4, E81T1-Ni2MJ H4
- AWS A5.29M, E551T1-Ni2CJ H4, E551T1-Ni2MJ H4
- ASME SFA 5.29, E81T1-Ni2CJ H4, E81T1-Ni2MJ H4
- CWB, 100% CO_2, E551T1-Ni2C-JH4
- CWB, 75-80% Ar/Balance CO_2, E551T1-Ni2M-JH4
- DNV, 100% CO_2, III Y40MS
- DNV, 75% Ar/25% CO_2, III Y40MS
- Lloyd's Register, 100% CO_2, 3YS H15
- Lloyd's Register, 75% Ar/25% CO_2, 3YS H15
- AWS D1.8, 100% CO_2 (1/16" diameter electrode)

Tri-Mark:

- ABS, 100% CO_2, 3YSA

TM-911N2

ALL POSITION

AWS E91T1-Ni2C

Benefits:

- excellent wetting characteristics for uniform bead appearance
- excellent slag release for reduced post weld cleanup time
- fast freezing slag for excellent out-of-position capability
- excellent low temperature impact properties for critical applications

Typical Applications:

- 2% Nickel steels
- ASTM A203 Grade A & B steels
- offshore construction
- shipbuilding

Typical Weld Metal Chemistry:

Carbon	0.07
Manganese	1.18
Silicon	0.60
Phosphorus	0.012
Sulphur	0.021
Nickel	2.41

Typical Mechanical Properties (AW):

Tensile Strength (psi)	99,000 (683 MPa)
Yield Strength (psi)	86,000 (593 MPa)
Elongation % in 2" (50mm)	23%

Typical Charpy V-notch Impact Values (AW):

Avg. at -40°F (-40°C)	36 ft.lb. (49J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
1/16" (1.6 mm)	150-425	21-31	1" (25 mm)

Shielding Gas: 100% CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E91T1-Ni2C
- AWS A5.29M, E621T1-Ni2C
- ASME SFA 5.29, E91T1-Ni2C

TM-881K2

ALL POSITION

AWS E81T1-K2C/MJ H8

Benefits:

- low spatter for decreased post weld cleanup
- excellent low temperature impact properties in both as welded and stress relieved conditions
- low hydrogen for increased resistance to hydrogen cracking

Typical Applications:

- HSLA steels
- offshore construction
- shipbuilding
- heavy equipment

Typical Weld Metal Chemistry:

	100% CO_2	80% Ar/20% CO_2
Carbon	0.04	0.06
Manganese	0.97	1.23
Silicon	0.19	0.29
Phosphorus	0.010	0.009
Sulphur	0.015	0.015
Molybdenum	0.01	0.01
Nickel	1.62	1.52

Typical diffusible hydrogen:

3.5 ml/100g	4.0 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	88,000 (607 MPa)	96,000 (662 MPa)
Yield Strength (psi)	79,000 (545 MPa)	86,000 (593 MPa)
Elongation % in 2" (50mm)	24%	21%

Typical Charpy V-notch Impact Values (AW):

Avg. at -40°F (-40°C)	82 ft.lb. (111J)	66 ft.lb. (89J)
Avg. at -76°F (-60°C)	—	53 ft.lb. (71J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	100-300	22-30	7/8"(22 mm)

Shielding Gas: 100% CO_2, 75-80% Ar/Balance CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E81T1-K2CJ H8, E81T1-K2MJ H8
- AWS A5.29M, E551T1-K2CJ H8, E551T1-K2MJ H8
- ASME SFA 5.29, E81T1-K2CJ H8, E81T1-K2MJ H8
- ABS, 80% Ar/20% CO_2, E81T1-K2M
- Lloyd's Register, 80% Ar/20% CO_2, 4Y42S H10
- Bureau Veritas, 75-80% Ar/Balance CO_2, S5Y42M
- DNV, 75-80% Ar/Balance CO_2, V Y42MS (H10)
- EN17632-A: T 46 6 1.5Ni P M 2 H5
- CE Marked per CPR 305/2011

FabCO® 81K2-C

ALL POSITION

AWS E81T1-K2CJ H8

Benefits:

- fast freezing slag for superior out-of-position performance
- excellent operator appeal
- low spatter for reduced post weld cleanup
- excellent toughness at low temperatures

Typical Applications:

- HSLA steels
- offshore construction
- shipbuilding
- heavy equipment

Typical Weld Metal Chemistry:

Carbon	0.07
Manganese	1.13
Silicon	0.27
Phosphorus	0.015
Sulphur	0.014
Nickel	1.67

Typical diffusible hydrogen: 3.9 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	87,000 (600 MPa)
Yield Strength (psi)	78,000 (538 MPa)
Elongation % in 2" (50mm)	27%

Typical Charpy V-notch Impact Values (AW):

Avg. at -40°F (-40°C)	91 ft.lb. (123J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	150-300	23-30	1" (25 mm)
.052" (1.4 mm)	150-300	23-31	1" (25 mm)

Shielding Gas: 100% CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E81T1-K2CJ H8
- AWS A5.29M, E551T1-K2CJ H8
- ASME SFA 5.29, E81T1-K2CJ H8
- ABS, 100% CO_2, 3Y400S H5

TM-991K2

ALL POSITION

AWS E91T1-K2C/M H8

Benefits:

- low smoke and spatter
- fast freezing slag for enhanced out-of-position performance
- enhanced slag release

Typical Applications:

- HSLA or Q&T steels
- ideal for A514, A710, and HY-80 steels
- shipbuilding
- heavy equipment

Typical Weld Metal Chemistry:

	100% CO_2	75% Ar/25% CO_2
Carbon	0.05	0.06
Manganese	1.04	1.57
Silicon	0.19	0.35
Phosphorus	0.009	0.009
Sulphur	0.014	0.015
Nickel	1.92	1.69
Molybdenum	0.01	0.01

Typical diffusible hydrogen:

5.0 ml/100g	6.5 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	92,000 (635 MPa)	101,800 (702 MPa)
Yield Strength (psi)	80,000 (552 MPa)	93,400 (644 MPa)
Elongation % in 2" (50mm)	27%	24%

Typical Charpy V-notch Impact Values (AW):

Avg. at 0°F (-20°C)	63 ft.lb. (85J)	52 ft.lb. (71J)
Avg. at -60°F (-50°C)	—	26 ft.lb. (35J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	150-300	23-30	1/2" (13 mm)
1/16" (1.6 mm)	175-350	23-29	1/2" (13 mm)

Shielding Gas: 100% CO_2, 75-80% Ar/Balance CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E91T1-K2C H8, E91T1-K2M H8
- AWS A5.29M, E621T1-K2C H8, E621T1-K2M H8
- ASME SFA 5.29, E91T1-K2C H8, E91T1-K2M H8
- CWB, 100% CO_2, E621T1-K2C-H8
- ABS, 100% CO_2, E91T1-K2C H8
- ABS, 75% Ar/25% CO_2, E91T1-K2M H8

TM-95K2

FLAT & HORIZONTAL

AWS E90T5-K2C/M H4

Benefits:

- Excellent fracture toughness
- Outstanding resistance to cracking
- Versatile chemistry

Typical Applications:

- HSLA or Q&T steels
- ideal for A514, A709 gd HPS70W, A710, and HY-80 steels
- shipbuilding
- offshore construction

Typical Weld Metal Chemistry:

	100% CO_2	75% Ar/25% CO_2
Carbon	0.05	0.05
Manganese	0.91	1.10
Silicon	0.45	0.60
Phosphorus	0.010	0.009
Sulphur	0.009	0.008
Molybdenum	0.19	0.19
Nickel	1.56	1.64

Typical diffusible hydrogen:

1.1 ml/100g	1.3 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	90,000 (637 MPa)	98,000 (673 MPa)
Yield Strength (psi)	78,000 (540 MPa)	88,000 (605 MPa)
Elongation % in 2" (50mm)	26%	26%

Typical Charpy V-notch Impact Values (AW):

Avg. at 0°F (-20°C)	74 ft.lb.(100J)	75 ft.lb.(102J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
1/16" (1.6 mm)	200-485	25-34	1" (25 mm)

Shielding Gas: 100% CO_2, 75-80% Ar/Balance CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E90T5-K2C H4, E90T5-K2M H4
- AWS A5.29M, E620T5-K2C H4, E620T5-K2M H4
- ASME SFA 5.29, E90T5-K2C H4, E90T5-K2M H4

TM-101K3

FLAT & HORIZONTAL

AWS E100T1-K3C

Benefits:

- 100 ksi tensile strength for critical applications
- versatile chemistry
- optimized for performance with 100% CO_2

Typical Applications:

- intended for HSLA and Q&T steels
- offshore construction
- shipbuilding

Typical Weld Metal Chemistry:

Carbon	0.043
Manganese	1.27
Silicon	0.74
Phosphorus	0.014
Sulphur	0.013
Molybdenum	0.43
Nickel	2.29
Vanadium	0.017

Typical Mechanical Properties (AW):

Tensile Strength (psi)	107,500 (741 MPa)
Yield Strength (psi)	96,700 (667 MPa)
Elongation % in 2" (50mm)	20%

Typical Charpy V-notch Impact Values (AW):

Avg. at 0°F (-20°C)	30 ft.lb. (41J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
1/16" (1.6 mm)	200-400	24-32	1" (25 mm)
5/64" (2.0 mm)	250-500	25-35	1-1/4"(32 mm)
3/32" (2.4 mm)	300-600	26-37	1-1/4"(32 mm)

Shielding Gas: 100% CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E100T1-K3C
- AWS A5.29M, E690T1-K3C
- ASME SFA 5.29, E100T1-K3C

TM-115

FLAT & HORIZONTAL

AWS E110T5-K3C/M H4

Benefits:

- extremely low hydrogen for improved crack resistance
- excellent low temperature impact properties
- versatile chemistry

Typical Applications:

- intended for HSLA and Q&T steels
- offshore construction
- shipbuilding

Typical Weld Metal Chemistry:

	100% CO_2	75% Ar/25% CO_2
Carbon	0.05	0.08
Manganese	1.49	2.04
Silicon	0.33	0.62
Phosphorus	0.011	0.014
Sulphur	0.017	0.012
Molybdenum	0.37	0.41
Nickel	2.24	1.84

Typical diffusible hydrogen:

2.1 ml/100g	2.3 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	112,000 (772 MPa)	126,800 (875 MPa)
Yield Strength (psi)	98,000 (676 MPa)	105,800 (730 MPa)
Elongation % in 2" (50mm)	22%	22%

Typical Charpy V-notch Impact Values (AW):

Avg. at -60°F (-51°C)	57 ft.lb. (77J)	47 ft.lb. (64J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
1/16" (1.6 mm)	200-425	25-34	1" (25 mm)
3/32" (2.4 mm)	300-600	26-35	1-1/4"(32 mm)

Shielding Gas: 100% CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E110T5-K3C H4, E110T5-K3M H4
- AWS A5.29M, E760T5-K3C H4, E760T5-K3M H4
- ASME SFA 5.29, E110T5-K3C H4, E110T5-K3M H4
- ABS, 100% CO_2, E110T5-K3C H4

FabCO® 110

TM-1101K3-M

ALL POSITION

AWS E111T1-K3MJ H8

Benefits:

- enhanced slag release
- fast freezing slag for enhanced out-of-position capability
- low hydrogen to reduce risk of hyrogen cracking

Typical Applications:

- intended for HSLA and Q&T steels
- offshore construction
- shipbuilding

Typical Weld Metal Chemistry:

	75% Ar/25% CO_2
Carbon	0.06
Manganese	1.60
Silicon	0.40
Phosphorus	0.008
Sulphur	0.010
Chromium	0.05
Nickel	1.90
Molybdenum	0.30
Vanadium	0.02

Typical diffusible hydrogen: 4.2 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	120,000 (827 MPa)
Yield Strength (psi)	112,000 (772 MPa)
Elongation % in 2" (50mm)	21%

Typical Charpy V-notch Impact Values (AW):

Avg. at -20°F (-30°C)	30 ft.lb. (41J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	150-300	23-28	1" (25 mm)
.052" (1.4 mm)	200-350	25-30	1" (25 mm)
1/16" (1.6 mm)	175-400	23-32	1" (25 mm)

Shielding Gas: 75-80% Ar/Balance CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E111T1-K3MJ H8
- AWS A5.29M, E761T1-K3MJ H8
- ASME SFA 5.29, E111T1-K3MJ H8
- CWB, 75-80% Ar/Balance CO_2, E761T1-K3MJ-H8

TM-1101K3-C

ALL POSITION

AWS E111T1-K3CJ H8

Benefits:

- excellent arc stability for exceptional operator appeal
- low spatter helps reduce post weld cleanup
- low hydrogen to reduce risk of hyrogen cracking

Typical Applications:

- intended for HSLA and Q&T steels
- offshore construction
- shipbuilding

Typical Weld Metal Chemistry:

Carbon	0.07
Manganese	1.55
Silicon	0.34
Phosphorus	0.009
Sulphur	0.017
Chromium	0.03
Nickel	1.97
Molybdenum	0.37
Vanadium	0.02

Typical diffusible hydrogen: 2.9 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	117,000 (807 MPa)
Yield Strength (psi)	105,000 (724 MPa)
Elongation % in 2" (50mm)	22%

Typical Charpy V-notch Impact Values (AW):

Avg. at -20°F (-30°C)	34 ft.lb. (46J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	125-325	24-31	3/4" (19 mm)
.052" (1.4 mm)	150-375	24-32	3/4" (19 mm)

Shielding Gas: 100% CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E111T1-K3CJ H8
- AWS A5.29M, E761T1-K3CJ H8
- ASME SFA 5.29, E111T1-K3CJ H8
- ABS, 100% CO_2, E111T1-K3CJ H8

FabCO® 110K3-M

ALL POSITION

AWS E111T1-K3MJ H4

Benefits:

- optimized for use with mixed gas
- low temperature impact properties for critical applications
- low hydrogen to reduce risk of hyrogen cracking

Typical Applications:

- intended for HSLA and Q&T steels
- offshore construction
- shipbuilding

Typical Weld Metal Chemistry:

	75% Ar/25% CO_2
Carbon	0.05
Manganese	2.04
Silicon	0.26
Phosphorus	0.007
Sulphur	0.014
Chromium	0.12
Nickel	1.84
Molybdenum	0.37

Typical diffusible hydrogen: 2.2 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	128,000 (883 MPa)
Yield Strength (psi)	124,000 (854 MPa)
Elongation % in 2" (50mm)	15%

Typical Charpy V-notch Impact Values (AW):

Avg. at -20°F (-30°C)	32 ft.lb. (43J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	170-200	23-28	3/4"(19 mm)

Shielding Gas: 75-80% Ar/Balance CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E111T1-K3MJ H4
- AWS A5.29M, E761T1-K3MJ H4
- ASME SFA 5.29, E111T1-K3MJ H4
- ABS, 75% Ar/25% CO_2, E111T1-K3MJ H4

FabCO® 115

FLAT & HORIZONTAL

AWS E110T5-K4C

Benefits:

- comparable to E11018M but with higher depostition rates
- increased weld toughness for critical welds at low temperatures
- produces a low hydrogen deposit with basic slag to minimize cracking

Typical Applications:

- mining equipment
- earthmoving equipment
- off-the-road vehicles
- single and multiple pass applications

Typical Weld Metal Chemistry:

Carbon	0.04
Manganese	1.50
Silicon	0.41
Phosphorus	0.012
Sulphur	0.014
Chromium	0.42
Nickel	2.37
Chromium	0.42
Molybdenum	0.42

Typical Mechanical Properties (AW):

Tensile Strength (psi)	126,000 (869 MPa)
Yield Strength (psi)	102,000 (701 MPa)
Elongation % in 2" (50mm)	18%

Typical Charpy V-notch Impact Values (AW):

Avg. at -60°F (-51°C)	48 ft.lb. (65J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	120-220	22-27	3/4" (19 mm)
1/16" (1.6 mm)	190-350	22-30	3/4" (19 mm)
3/32" (2.4 mm)	290-525	25-32	1" (25 mm)

Shielding Gas: 100% CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E110T5-K4C
- ASME SFA 5.29, E110T5-K4C
- ABS 100% CO_2 E110T5-K4C
- CWB 100% CO_2 E7605-K4C H4

TM-125K4

FLAT & HORIZONTAL

AWS E120T5-K4C H4

Benefits:

- designed for semi-automatic and automatic welding of high strength steels where minimum tensile of 120,00 psi is required
- good impact values at low temperatures, down to -60°F
- basic slag produces low diffusible hydrogen and promotes resistance to cracking
- high deposition rates and high efficiency

Typical Applications:

- casting repair
- single and muliple pass applications with 100% CO_2 Shielding Gas
- welding of quenched and tempered steels and HSLA steels

Typical Weld Metal Chemistry:

Carbon	0.07
Manganese	1.88
Silicon	0.42
Phosphorus	0.010
Sulphur	0.016
Chromium	0.52
Nickel	2.13
Molybdenum	0.61
Vanadium	0.01

Typical Mechanical Properties (AW):

Tensile Strength (psi)	133,000 (917 MPa)
Yield Strength (psi)	118,000 (814 MPa)
Elongation % in 2" (50mm)	20%

Typical Charpy V-notch Impact Values (AW):

Avg. at -60°F (-51°C)	57 ft.lb. (77J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
1/16" (1.6 mm)	200-425	25-34	3/4" (19 mm)

Shielding Gas: 100% CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E120T5-K4C H4
- AWS A5.29M, E831T5-K4C H4
- ASME SFA 5.29, E120T5-K4C H4

TM-105D2

FLAT & HORIZONTAL

AWS E100T5-D2C

Benefits:

- excellent low temperature toughness
- low weld metal hydrogen
- wire composition is well suited for the repair of manganese-moly castings
- weld metal maintains strength after several hours of stress relieving

Typical Applications:

- Manganese-moly casting repair
- single or multiple pass applications with 100% CO_2 Shielding Gas

Typical Weld Metal Chemistry:

Carbon	0.11
Manganese	2.00
Silicon	0.55
Phosphorus	0.009
Sulphur	0.010
Molybdenum	0.44

Typical Mechanical Properties (PWHT 1 Hr. @ 1150°F/621°C):

Tensile Strength (psi)	111,000 (765 MPa)
Yield Strength (psi)	97,000 (669 MPa)
Elongation % in 2" (50mm)	24%

Typical Charpy V-notch Impact Values (PWHT 1 Hr. @ 1150°F/621°C):

Avg. at -40°F (-40°C)	49 ft.lb. (66J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
1/16" (1.6 mm)	200-425	25-34	3/4" (19 mm)
3/32" (2.4 mm)	300-600	26-35	1" (25 mm)

Shielding Gas: 100% CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E1005-D2C
- AWS A5.29M, E690T5-D2C
- ASME SFA 5.29, E1005-D2C

TM-811A1

ALL POSITION

AWS E81T1-A1C

Benefits:

- Molybdenum content of weld metal deposit helps maintain tensile strength after stress relief
- good weldability in all positions
- fast-freezing slag removes easily

Typical Applications:

- boilers
- pressure Vessels
- pressure Piping
- single and multiple pass applications with 100% CO_2 Shielding Gas

Typical Weld Metal Chemistry:

Carbon	0.04
Manganese	0.83
Silicon	0.26
Phosphorus	0.014
Sulphur	0.016
Molybdenum	0.48

Typical Mechanical Properties (PWHT 1 Hr. @ 1150°F/621°C):

Tensile Strength (psi)	94,000 (648 MPa)
Yield Strength (psi)	83,000 (572 MPa)
Elongation % in 2" (50mm)	26%

Typical Charpy V-notch Impact Values:
Not required

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	115-325	20-30	1/2" (13 mm)
1/16" (1.6 mm)	150-425	21-31	3/4" (19 mm)

Shielding Gas: 100% CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E81T1-A1C
- AWS A5.29M, E551T5-A1C
- ASME SFA 5.29, E81T1-A1C

TM-811W

ALL POSITION

AWS E81T1-W2C H8

Benefits:

- meets D1.1 structural code to weld A242 and A588
- good properties in the 80,000-100,000 psi strength range and good impact values
- alloyed to provide a weld metal color match in the weathring conditions
- capable of welding in all positions

Typical Applications:

- weathering steels where the steel may be exposed to the environment
- single and multiple pass applications with 100% CO_2 Shielding Gas

Typical Weld Metal Chemistry:

Carbon	0.06
Manganese	1.30
Silicon	0.70
Phosphorus	0.008
Sulphur	0.014
Chromium	0.59
Nickel	0.74
Copper	0.38

Typical diffusible hydrogen: 2.7 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	99,000 (683 MPa)
Yield Strength (psi)	85,000 (586 MPa)
Elongation % in 2" (50mm)	25%

Typical Charpy V-notch Impact Values (AW):

Avg. at -20°F (-30°C) 25 ft.lb. (34J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	115-325	20-30	1/2" (13 mm)
1/16" (1.6 mm)	150-425	21-31	3/4" (19 mm)

Shielding Gas: 100% CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E81T1 W2C H8
- AWS A5.29M, E551T1-W2 H8
- ASME SFA 5.29, E81T1 W2C H8

TM-811B2

ALL POSITION

AWS E81T1-B2C H8

Benefits:

- maintains tensile strength at high service temperature, provides good creep resistance
- suitable replacement for E8018-B2
- fast-freezing slag, suitable for all-position welding
- increases productivity

Typical Applications:

- PII Pipe
- high temperature applications
- welding of 1.25% Cr and 0.5% Mo steels
- single or multiple pass applications with 100% CO_2

Typical Weld Metal Chemistry:

Carbon	0.06
Manganese	0.53
Silicon	0.38
Phosphorus	0.009
Sulphur	0.010
Chromium	1.28
Molybdenum	0.44

Typical diffusible hydrogen: 5.0 ml/100g

Typical Mechanical Properties (PWHT 1 Hr. @ 1275°F/691°C):

Tensile Strength (psi)	95,000 (655 MPa)
Yield Strength (psi)	82,000 (565 MPa)
Elongation % in 2" (50mm)	22%

Typical Charpy V-notch Impact Values:

Not required

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	175-300	24-30	5/8" (16 mm)
1/16" (1.6 mm)	200-400	24-33	3/4" (19 mm)

Shielding Gas: 100% CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E81T1-B2C H8
- ASME SFA 5.29, E81T1-B2C H8
- AWS A5.29M, E551T1-B2C H8
- CWB 100% CO_2 E551T1-B2C

FabCO® XTREME™ B2

ALL POSITION

AWS E81T5-B2M H8

Benefits:

- basic slag system with the slag removal and spatter of a T1 electrode
- excellent toughness properties
- reduced chance of temper embrittlement
- minimizes crack susceptibility

Typical Applications:

- welding of 1.25 Cr and 0.5 Mo steels
- single and multiple pass applications with mixed gas
- high temperature service application where high tensile strength and creep resistance is required
- boiler and pressure vessel piping

Typical Weld Metal Chemistry:

	75% Ar/25% CO_2
Carbon	0.10
Manganese	1.08
Silicon	0.10
Phosphorus	0.008
Sulphur	0.003
Nickel	0.04
Chromium	1.22
Molybdenum	0.50

Typical diffusible hydrogen: 5.2 ml/100g

Typical Mechanical Properties (PWHT 1 Hr. @ 1275°F/691°C):

Tensile Strength (psi)	86,100 (594 MPa)
Yield Strength (psi)	68,800 (474 MPa)
Elongation % in 2" (50mm)	24%

Typical Charpy V-notch Impact Values (PWHT 1 Hr. @ 1275°F/691°C):

Avg. at -40°F (-40°C) 91 ft.lb. (124J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	160-290	21-27	1/2" (13 mm)

Shielding Gas: 75-80% Ar/Balance CO_2

Type of Current: DCEN

Approvals and Conformances:

- AWS A5.29, E81T5-B2M H8
- AWS A5.29M, E581T5-B2M H8
- ASME SFA 5.29, E81T5-B2M H8

TM-91B3

FLAT & HORIZONTAL

AWS E90T1-B3C

Benefits:

- high temperature creep resistance and some oxidation resistance
- replaces E9018-B3 covered electrode in suitable applications
- excellent welder appeal with good bead geometry

Typical Applications:

- welding of 2.25 Cr and 1 Mo Steels
- single or multiple pass applications with 100% CO_2 shielding gas
- steam or chemical piping systems

Typical Weld Metal Chemistry:

Carbon	0.06
Manganese	0.64
Silicon	0.25
Phosphorus	0.010
Sulphur	0.013
Chromium	2.47
Molybdenum	1.06

Typical Mechanical Properties (PWHT 1 Hr. @ 1275°F/691°C):

Tensile Strength (psi)	106,000 (731 MPa)
Yield Strength (psi)	93,000 (641 MPa)
Elongation % in 2" (50mm)	19%

Typical Charpy V-notch Impact Values:
Not required

Typical Operating Range:

Dia.	Amps	Volts	CTWD
5/64" (2.0 mm)	140-390	25-36	1-1/4"(32 mm)

Shielding Gas: 100% CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E90T1-B3C
- AWS A5.29M, E620T1-B3C
- ASME SFA 5.29, E90T1-B3C

TM-911B3

ALL POSITION

AWS E91T1-B3C/M H8

Benefits:

- high temperature creep resistance and some corrosion resistance
- excellent welder appeal with good bead geometry in all positions
- can be used for all position welding

Typical Applications:

- welding of 2.25 Cr and 1 Mo steels
- single or multiple pass applications with 100% CO_2 or mixed gas

Typical Weld Metal Chemistry:

	100% CO_2	80% Ar/20% CO_2
Carbon	0.05	0.05
Manganese	0.64	0.92
Silicon	0.27	0.38
Phosphorus	0.011	0.010
Sulphur	0.013	0.011
Molybdenum	0.93	0.97
Chromium	2.04	2.30

Typical diffusible hydrogen:

2.8 ml/100g	3.1 ml/100g

Typical Mechanical Properties (PWHT 1 Hr. @ 1275°F/691°C):

Tensile Strength (psi)	100,000 (689 MPa)	109,000 (752 MPa)
Yield Strength (psi)	86,000 (593 MPa)	86,000 (593 MPa)
Elongation % in 2" (50mm)	20%	18%

Typical Charpy V-notch Impact Values:
Not required

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	115-325	20-30	1/2" (13 mm)
1/16" (1.6 mm)	150-425	21-31	3/4" (19 mm)

Shielding Gas: 100% CO_2, 75-80% Ar/Balance CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E91T1-B3C/M H8
- AWS A5.29M, E621T1-B3 C/M H8
- ASME SFA 5.29, E91T1-B3C/M H8

FabCO® XTREME™ B3

ALL POSITION

AWS E91T5-B3M H8

Benefits:

- excellent toughness properties
- minimizes crack susceptibility
- reduced chance of temper embrittlement
- slag removal and spatter similar to a T1 electrode

Typical Applications:

- welding 2.25 Cr and 1 Mo steels
- single and multiple pass applications with mixed gas
- high temperature piping systems

Typical Weld Metal Chemistry:

	75% Ar/25% CO_2
Carbon	0.10
Manganese	1.05
Silicon	0.08
Phosphorus	0.007
Sulphur	0.003
Nickel	0.02
Chromium	2.30
Molybdenum	1.03

Typical diffusible hydrogen: 5.0 ml/100g

Typical Mechanical Properties (PWHT 1 Hr. @ 1275°F/691°C):

Tensile Strength (psi)	105,600 (728 MPa)
Yield Strength (psi)	88,100 (607 MPa)
Elongation % in 2" (50mm)	21%

Typical Charpy V-notch Impact Values (PWHT 1 Hr. @ 1275°F/691°C):

Avg. at -40°F (-40°C)	110 ft.lb. (149J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	160-290	21-26.5	3/4" (19 mm)

Shielding Gas: 75-80% Ar/Balance CO_2

Type of Current: DCEN

Approvals and Conformances:

- AWS A5.29, E91T5-B3M H8
- AWS A5.29M, E621T5-B3M H8
- ASME SFA 5.29, E91T5-B3M H8

TM-B6

ALL POSITION

AWS E81T1-B6C/M

Benefits:

- fast freezing slag for out-of-position welding
- excellent arc stability with flat bead appearance
- low spatter level
- produces x-ray quality weld

Typical Applications:

- welding 5 Cr and 0.5 Mo steels
- single and multiple pass applications with 100% CO_2 or mixed gas
- high temperature and high pressure applications

Typical Weld Metal Chemistry:

	100% CO_2	75% Ar/25% CO_2
Carbon	0.05	0.06
Manganese	0.40	0.40
Silicon	0.54	0.51
Phosphorus	0.008	0.007
Sulphur	0.010	0.010
Nickel	0.02	0.02
Chromium	4.80	4.90
Molybdenum	0.49	0.50

Typical Mechanical Properties (PWHT 2 Hrs. @ 1375°F/746°C):

Tensile Strength (psi)	99,000 (683 MPa)	102,500 (707 MPa)
Yield Strength (psi)	85,000 (586 MPa)	92,000 (634 MPa)
Elongation % in 2" (50mm)	18%	18%

Typical Charpy V-notch Impact Values (PWHT 2 Hrs. @ 1375°F/746°C):

Avg. at 32°F (0°C)	25 ft.lb. (34J)	28 ft.lb. (38J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	115-325	20-30	1/2" (13 mm)
1/16" (1.6 mm)	150-425	21-31	3/4" (19 mm)

Shielding Gas: 100% CO_2, 75-80% Ar/Balance CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E81T1-B6C/M
- AWS A5.29M, E551T1-B6C/M
- ASME SFA 5.29, E81T1-B6C/M

TM-B9

ALL POSITION

AWS E91T1-B9M

Benefits:

- fast freezing slag for out-of-position welding
- excellent arc stability with flat bead appearance
- low spatter level
- x-ray quality weld

Typical Applications:

- welding of Grade 91 steels
- high temperature and high pressure applications
- single and multiple pass applications with mixed gas

Typical Weld Metal Chemistry:

	75% Ar/25% CO_2
Carbon	0.12
Manganese	0.60
Silicon	0.15
Phosphorus	0.008
Sulphur	0.008
Nickel	0.70
Chromium	9.00
Molybdenum	1.00

Typical Mechanical Properties (PWHT 1 Hr. @ 1400°F/760°C):

Tensile Strength (psi)	116,000 (728 MPa)
Yield Strength (psi)	96,000 (607 MPa)
Elongation % in 2" (50mm)	16%

Typical Charpy V-notch Impact Values:
Not required

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	170-260	24-26	3/4" (19 mm)

Shielding Gas: 75-80% Ar/Balance CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E91T1-B9M
- AWS A5.29M, E621T1-B9M
- ASME SFA 5.29, E91T1-B9M

Element™ 71Ni1C

ALL POSITION

AWS E71T1-GC H8

Benefits:

- extremely low manganese emissions
- low spatter and fume
- improved operator comfort and productivity
- enhanced out-of-position capability

Typical Applications:

- applications where compliance with OSHA regulations or NISOH and ACGIH recommendations for Manganese could be a concern
- heavy equipment
- rail and general fabrication
- shipbuilding

Typical Weld Metal Chemistry:

Carbon	0.04
Manganese	0.25
Silicon	0.44
Phosphorus	0.010
Sulphur	0.009
Nickel	1.05

Typical diffusible hydrogen: 3.3 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	74,000 (510 MPa)
Yield Strength (psi)	66,000 (455 MPa)
Elongation % in 2" (50mm)	28%

Typical Charpy V-notch Impact Values (AW):

Avg. at -20°F (-30°C)	98 ft.lb. (133J)
Avg. at -40°F (-40°C)	78 ft.lb. (106J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	150-280	24-30	3/4" (19 mm)
.052" (1.4 mm)	170-350	25-34	3/4" (19 mm)
1/16" (1.6 mm)	250-550	26-34	1" (25 mm)

Shielding Gas: 100% CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E71T1-GC H8
- AWS A5.29M, E491T1-GC H8
- ASME SFA 5.29, E71T1-GC H8
- ABS, 100% CO_2 3YSA-H10

Element™ 71Ni1M

ALL POSITION

AWS E71T1-GM H8

Benefits:

- extremely low manganese emissions
- low spatter and fume
- improved operator comfort and productivity
- enhanced out-of-position capability

Typical Applications:

- applications where compliance with OSHA regulations or NISOH and ACGIH ecommendations for Manganese could be a concern
- heavy equipment
- rail and general fabrication
- shipbuilding

Typical Weld Metal Chemistry:

	75% Ar/25% CO_2
Carbon	0.07
Manganese	0.24
Silicon	0.47
Phosphorus	0.012
Sulphur	0.012
Nickel	1.00

Typical diffusible hydrogen: 5.7 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	74,000 (510 MPa)
Yield Strength (psi)	63,000 (434 MPa)
Elongation % in 2" (50mm)	26%

Typical Charpy V-notch Impact Values (AW):

Avg. at -20°F (-30°C)	86 ft.lb. (117J)
Avg. at -40°F (-40°C)	61 ft.lb. (83J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	180-295	22-27	3/4" (19 mm)
.052" (1.4 mm)	170-350	23-29	3/4" (19 mm)
1/16" (1.6 mm)	220-400	21-28	1" (25 mm)

Shielding Gas: 75-80% Ar/Balance CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E71T1-GM H8
- AWS A5.29M, E491T1-GM H8
- ASME SFA 5.29, E71T1-GM H8
- ABS, 75% Ar/25% CO_2 3YSA-H10

Element™ 81K2C

ALL POSITION

AWS E81T1-GC H8

Benefits:

- extremely low manganese emissions
- low spatter and fume
- improved operator comfort and productivity
- enhanced out-of-position capability

Typical Applications:

- applications where compliance with OSHA regulations or NISOH and ACGIH ecommendations for Manganese could be a concern
- heavy equipment
- rail and general fabrication
- shipbuilding

Typical Weld Metal Chemistry:

Carbon	0.06
Manganese	0.25
Silicon	0.47
Phosphorus	0.010
Sulphur	0.009
Nickel	1.84
Chromium	0.02
Molybdenum	0.02
Vanadium	0.006

Typical diffusible hydrogen: 6.1 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	82,000 (565 MPa)
Yield Strength (psi)	71,000 (490 MPa)
Elongation % in 2" (50mm)	28%

Typical Charpy V-notch Impact Values (AW):

Avg. at -20°F (-30°C)	81 ft.lb. (117J)
Avg. at -40°F (-40°C)	57 ft.lb. (83J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	165-320	24-30	3/4" (19 mm)
.052" (1.4 mm)	170-350	24-30	3/4" (19 mm)
1/16" (1.6 mm)	170-400	24-31	1" (25 mm)

Shielding Gas: 100% CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E81T1-GC H8
- AWS A5.29M, E551T1-GC H8
- ASME SFA 5.29, E81T1-GC H8
- ABS, 100% CO_2 3YSA-H10

Element™ 81K2M

ALL POSITION

AWS E81T1-GM H8

Benefits:

- extremely low manganese emissions
- low spatter and fume
- improved operator comfort and productivity
- enhanced out-of-position capability

Typical Applications:

- applications where compliance with OSHA regulations or NISOH and ACGIH ecommendations for Manganese could be a concern
- heavy equipment
- rail and general fabrication
- shipbuilding

Typical Weld Metal Chemistry:

Carbon	0.07
Manganese	0.40
Silicon	0.56
Phosphorus	0.010
Sulphur	0.010
Nickel	1.89
Chromium	0.035
Molybdenum	0.004
Vanadium	0.007

Typical diffusible hydrogen: 6.2 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	84,000 (579 MPa)
Yield Strength (psi)	73,000 (503 MPa)
Elongation % in 2" (50mm)	28%

Typical Charpy V-notch Impact Values (AW):

Avg. at -20°F (-30°C)	76 ft.lb. (103J)
Avg. at -40°F (-40°C)	66 ft.lb. (89J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	170-300	22-27	3/4" (19 mm)
.052" (1.4 mm)	170-350	23-29	3/4" (19 mm)
1/16" (1.6 mm)	185-400	22-28	1" (25 mm)

Shielding Gas: 75-80% Ar/Balance CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E81T1-GM H8
- AWS A5.29M, E551T1-GM H8
- ASME SFA 5.29, E81T1-GM H8
- ABS, 75% Ar/25% CO_2 3YSA-H10

FabCO® 107G

ALL POSITION

AWS E101T1-GC

Benefits:

- ideal for welding 4130 and 8630 steels with good impact toughness before and after PWHT
- ideal for welding A519, A514, A710, A517, EQ56 and other Q&T grades
- excellent weldability in all positions with low spatter levels
- low diffusible hydrogen levels

Typical Applications:

- offshore platforms
- structural applications
- single and multiple pass applications with 100% CO_2

Typical Weld Metal Chemistry:

Carbon	0.07
Manganese	1.40
Silicon	0.25
Phosphorus	0.009
Sulphur	0.010
Nickel	0.76
Chromium	0.05
Molybdenum	0.26

Typical diffusible hydrogen: 3.7 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	102,000 (703 MPa)
Yield Strength (psi)	94,000 (648 MPa)
Elongation % in 2" (50mm)	22%

Typical Charpy V-notch Impact Values (AW):

Avg. at -20°F (-30°C)	64 ft.lb. (87J)
Avg. at -40°F (-40°C)	52 ft.lb. (71J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	100-230	24-27	3/4" (19 mm)

Shielding Gas: 100% CO_2,

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E101T1-GC
- AWS A5.29M, E691T1-GC
- ASME SFA 5.29, E101T1-GC
- ABS, 100% CO_2 E101T1-GC

TM-101

ALL POSITION

AWS E101T1-GM

Benefits:

- provides excellent welder appeal through a smooth stable arc, low smoke generations and smooth bead profile
- exceptional low temperature impact toughness
- excellent all-positon performance with low spatter
- low diffusible hydrogen

Typical Applications:

- welding of HSLA steels and Q&T steels
- single and multiple pass applications with mixed gas

Typical Weld Metal Chemistry:

	75% Ar/25% CO_2
Carbon	0.06
Manganese	1.60
Silicon	0.38
Phosphorus	0.011
Sulphur	0.011
Nickel	1.95
Molybdenum	0.01

Typical diffusible hydrogen: 3.8 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	110,000 (758 MPa)
Yield Strength (psi)	102,000 (703 MPa)
Elongation % in 2" (50mm)	20%

Typical Charpy V-notch Impact Values (AW):

Avg. at 0°F (-20°C)	78 ft.lb. (106J)
Avg. at -20°F (-30°C)	70 ft.lb. (95J)
Avg. at -40°F (-40°C)	52 ft.lb. (71J)
Avg. at -60°F (-50°C)	35 ft.lb. (47J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
.045" (1.2 mm)	150-300	22-28	3/4" (19 mm)
1/16" (1.6 mm)	170-400	22-32	1" (25 mm)

Shielding Gas: 75-80% Ar/Balance CO_2

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.29, E101T1-GM
- AWS A5.29M, E691T1-GM
- ASME SFA 5.29, E101T1-GM
- ABS, 75% Ar/25% CO_2, ISO-18276-B, T694T1-1MA-N3M1-UH5 (0.045")

FabCO® XTREME™ 120

ALL POSITION

AWS E121T5-GC H4

Benefits:

- unique fast-freezing slag provides out-of-position capability
- low-hydrogen to minimize risk of hydrogen-induced cracking
- excellent impact toughness to resist cracking in severe applications
- high strength deposit for joining high strength steels

Typical Applications:

- welding of HSLA steels and Q&T steels
- heavy equipment & machinery repair
- shipbuilding
- offshore platforms

Typical Weld Metal Chemistry:

Carbon	0.07
Manganese	1.35
Silicon	0.14
Phosphorus	0.008
Sulphur	0.005
Nickel	3.90
Chromium	0.33
Molybdenum	0.22
Aluminum	0.45

Typical diffusible hydrogen: 3.4 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	125,000 (862 MPa)
Yield Strength (psi)	110,000 (758 MPa)
Elongation % in 2" (50mm)	17%

Typical Charpy V-notch Impact Values (AW):

Avg. at -40°F (-40°C)	100 ft.lb. (136J)
Avg. at -76°F (-60°C)	90 ft.lb. (122J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
1/16" (1.6 mm)	175-300	22-25	3/4" (19mm)

Shielding Gas: 100% CO_2

Type of Current: DCEN

Approvals and Conformances:

- AWS A5.29, E121T5-GC H4
- AWS A5.29M, E831T5-GC H4
- ASME SFA5.29, E121T5-GC H4
- ABS, E121T5-GC H4
- DNV, V Y69MS (H5)