

Fabshield® 71T8

ALL POSITION

AWS E71T8-Ni1J H8

Benefits:

- self-shielded; can be used outdoors without sheltering
- 1/16" (1.6 mm) diameter electrode provides an additional option in procedure development
- excellent impact toughness minimizes risk of cracking in severe applications
- optimized performance for welding in the vertical-down position on pipe

Typical Applications:

- API 5L Grade X70 and below (with proper procedures)
- oil & gas transmission pipelines
- oil & gas distribution pipelines

Typical Weld Metal Chemistry:

Carbon	.....0.02
Manganese	.....1.44
Silicon	.....0.06
Phosphorus	.....0.01
Sulphur	.....0.004
Nickel	.....0.95
Aluminum	.....1.00

Typical Diffusible Hydrogen: 3.4 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	80,000 (552 MPa)
Yield Strength (psi)	71,000 (490MPa)
Elongation % in 2" (50mm)	25%

Typical Charpy V-notch Impact Values (AW):

Avg. at -20°F (-30°C)	255 ft.lb. (346J)
Avg. at -40°F (-40°C)	135 ft.lb. (183J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
1/16" (1.6 mm)	150-225	17-21	3/4" (19 mm)
5/64" (2.0 mm)	175-250	17-20	1" (25 mm)

Shielding Gas: None required

Type of Current: DCEN

Approvals and Conformances:

- AWS A5.29, E71T8-Ni1J H8
- AWS A5.29M, E491T8-Ni1J H8
- ASME SFA 5.29, E71T8-Ni1J H8

Fabshield® 81N1

ALL POSITION

AWS E71T8-Ni1J H8

Benefits:

- self-shielded; can be used outdoors without sheltering
- fast-freezing slag is suitable for welding in all positions, and optimized for vertical-down
- excellent impact toughness minimizes risk of cracking in severe applications
- low-hydrogen electrode helps minimize the risk of hydrogen-induced cracking

Typical Applications:

- API 5L transmission pipeline
- Grade X65 and below steels (with proper procedures)
- shipbuilding & offshore

Typical Weld Metal Chemistry:

Carbon	.....0.03
Manganese	.....0.87
Silicon	.....0.05
Phosphorus	.....0.01
Sulphur	.....0.004
Nickel	.....0.95
Aluminum	.....0.67

Typical Diffusible Hydrogen: 6.4 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	71,000 (490 MPa)
Yield Strength (psi)	60,000 (414 MPa)
Elongation % in 2" (50mm)	29%

Typical Charpy V-notch Impact Values (AW):

Avg. at -40°F (-40°C)	205 ft.lb. (278J)
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Typical Operating Range:

Dia.	Amps	Volts	CTWD
5/64" (2.0 mm)	175-250	17-20	1" (25 mm)

Shielding Gas: None required

Type of Current: DCEN

Approvals and Conformances:

- AWS A5.29, E71T8-Ni1J H8
- AWS A5.29M, E491T8-Ni1J H8
- ASME SFA 5.29, E71T8-NiJ H8
- ABS, E71T8-Ni1J (5/64" diameter)
- EN758 T 38 4 1Ni Y N 1 H10

Fabshield® X80

ALL POSITION

AWS E81T8-Ni2J H8

Benefits:

- high strength deposit suitable for welding a wide range of materials
- low-hydrogen electrode minimizes the risk of hydrogen-induced cracking
- formulated for optimal performance in pipe-welding applications
- good impact toughness to minimize risk of cracking in critical applications

Typical Applications:

- API 5L Grade X80 and below (with proper procedures)
- oil & gas transmission pipeline
- oil & gas storage tanks
- certain structural applications

Typical Weld Metal Chemistry:

Carbon	.....0.04
Manganese	.....1.37
Silicon	.....0.06
Phosphorus	.....0.011
Sulphur	.....0.002
Nickel	.....2.38
Aluminum	.....0.93

Typical Diffusible Hydrogen: 7.3 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	94,000 (648 MPa)
Yield Strength (psi)	84,000 (579 MPa)
Elongation % in 2" (50mm)	25%

Typical Charpy V-notch Impact Values (AW):

Avg. at -20°F (-30°C)	105 ft.lbs. (142J)
Avg. at -40°F (-40°C)	95 ft.lbs. (129J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
5/64" (2.0 mm)	175-225	18-19	1" (25 mm)

Shielding Gas: None required

Type of Current: DCEN

Approvals and Conformances:

- AWS A5.29, E81T8-Ni2J H8
- AWS A5.29M, E551T8-Ni2J H8
- ASME SFA 5.29, E81T8-Ni2J H8

Fabshield® 71K6

ALL POSITION

AWS E71T8-K6J H8

Benefits:

- self-shielded; can be used outdoors without sheltering
- easy slag removal reduces cleanup time and minimizes risk of inclusion
- excellent impact toughness minimizes risk of cracking in severe application
- excellent welding characteristics improve operator appeal and promote consistent high-quality welds

Typical Applications:

- offshore drilling rigs
- shipbuilding
- piping
- structural fabrication

Typical Weld Metal Chemistry:

Carbon	0.035
Manganese	0.82
Silicon	0.07
Phosphorus	0.011
Sulphur	0.004
Nickel	0.89
Chromium	0.06
Molybdenum	0.03
Aluminum	0.95

Typical Diffusible Hydrogen: 5.5 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	76,000 (524 MPa)
Yield Strength (psi)	62,000 (427 MPa)
Elongation % in 2" (50mm)	28%

Typical Charpy V-notch Impact Values (AW):

Avg. at -40°F (-40°C)	295 ft.lbs. (400J)
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Typical Operating Range:

Dia.	Amps	Volts	CTWD
5/64" (2.0 mm)	175-275	18-20	1" (25 mm)

Shielding Gas: None required

Type of Current: DCEN

Approvals and Conformances:

- AWS A5.29, E71T8-K6J H8
- AWS A5.29M, E491T8-K6J H8
- ASME SFA 5.29, E71T8-K6J H8
- ABS, E71T8-K6J (5/64" diameter, all position)
- EN17632-A T 38 4 1Ni Y 1 H10

Fabshield® Offshore 71Ni Fabshield® X90

ALL POSITION

AWS E71T8-K6J H8

Benefits:

- self-shielded; can be used outdoors without sheltering
- fast-freezing slag allows for welding in all positions
- good impact toughness minimizes risk of cracking in critical applications
- easy slag removal reduces cleanup time and minimizes risk of inclusion

Typical Applications:

- certain structural applications
- shipbuilding
- offshore drilling rigs
- construction

Typical Weld Metal Chemistry:

Carbon	0.05
Manganese	1.21
Silicon	0.07
Phosphorus	0.011
Sulphur	0.004
Nickel	0.85
Aluminum	0.90

Typical Diffusible Hydrogen: 5.6 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	75,000 (517 MPa)
Yield Strength (psi)	61,000 (421 MPa)
Elongation % in 2" (50mm)	29%

Typical Charpy V-notch Impact Values (AW):

Avg. at -20°F (-30°C)	240 ft.lbs. (325J)
Avg. at -40°F (-40°C)	115 ft.lbs. (156J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
5/64" (2.0 mm)	175-225	18-20	1" (25 mm)

Shielding Gas: None required

Type of Current: DCEN

Approvals and Conformances:

- AWS A5.29, E71T8-K6J H8
- AWS A5.29M, E491T8-K6J H8
- ASME SFA 5.29, E71T8-K6J H8
- ABS, E71T8-K6J (5/64" diameter, all position)
- EN17632-A T 38 4 1Ni Y 1 H10
- DNV, IV YMS (H10)
- Lloyd's Register, 4YS (H10)

ALL POSITION

AWS E91T8-G H8

Benefits:

- high strength deposit suitable for welding a wide range of materials
- self-shielded; can be used outdoors without sheltering
- optimized performance for pipe welding applications
- excellent impact toughness minimizes risk of cracking in severe applications

Typical Applications:

- overmatch of API 5L Grade X80
- oil & gas transmission pipelines
- oil & gas distribution pipelines

Typical Weld Metal Chemistry:

Carbon	0.04
Manganese	1.56
Silicon	0.09
Phosphorus	0.008
Sulphur	0.004
Nickel	2.92
Aluminum	1.05

Typical Diffusible Hydrogen: 6.2 ml/100g

Typical Mechanical Properties (AW):

Tensile Strength (psi)	101,000 (696 MPa)
Yield Strength (psi)	90,000 (621 MPa)
Elongation % in 2" (50mm)	24%

Typical Charpy V-notch Impact Values (AW):

Avg. at 0°F (-20°C)	120 ft.lbs. (163J)
Avg. at -20°F (-30°C)	105 ft.lbs. (142J)
Avg. at -40°F (-40°C)	85 ft.lbs. (115J)

Typical Operating Range:

Dia.	Amps	Volts	CTWD
5/64" (2.0 mm)	175-250	18-20	1" (25 mm)

Shielding Gas: None required

Type of Current: DCEN

Approvals and Conformances:

- AWS A5.29, E91T8-G H8
- AWS A5.29M, E621T8-G H8
- ASME SFA 5.29, E91T8-G H8