

SA 71T-9

Carbon Steel / Gas Shielded / Flux Cored

PRODUCT DATA SHEET

FEATURES

- Intended for welding carbon steel plate, such as ASTM A36, A285, A515-Gr70, and A516-Gr70.
- The arc transfer is smooth and stable in both 100% CO₂ and 75-80% Ar/Balance CO₂.
- Slag removal and bead geometry are competitive with any of the all position wires sold commercially.
- Typical applications are welding of railcars, bridge structures, steel structures, and general fabrication.

DIAMETERS (in [mm])

0.045 (1.2), 0.052 (1.3), 1/16 (1.6)

POSITIONS



SHIELDING GAS

75-80% Ar/Balance CO₂, 100% CO₂
Flow Rate: 40 - 50 CFH

POLARITY

Direct Current Electrode Positive (DCEP)

TYPICAL WELD DEPOSIT CHEMISTRY (WT%)

Shielding Gas	C	Cr	Cu	Mn	Mo	Ni	P	S	Si	V
100%CO ₂	0.05	.02	.01	1.42	<.01	.33	0.011	0.010	0.63	.01
75%Ar / 25%CO ₂	0.05	.02	.01	1.40	<.01	.34	0.011	0.010	0.64	.01

TYPICAL MECHANICAL PROPERTIES

Shielding Gas	Tensile Strength ksi (MPa)	Yield Strength ksi (MPa)	Elongation (%)	Weld Condition	PWHT Temp	CVN @ -20°F (-30°C) ft-lb (J)
100%CO ₂	84 (579)	71 (490)	28	As-Welded	-	53 (72)
75%Ar / 25%CO ₂	88 (607)	79 (545)	27	As-Welded	-	82 (111)

CONFORMANCES

AWS A5.20	E71T-9C E71T-9M
ASME SFA 5.20	E71T-9C E71T-9M
AWS A5.36	E71T1-C1A2-CS1 E71T1-M21A2-CS1
ASME Section IX	A1
AWS D1.8	0.045 in (1.2 mm), (100% CO ₂) 0.045 in (1.2 mm), (75% Ar/25% CO ₂) 0.052 in (1.3 mm), (100% CO ₂) 0.052 in (1.3 mm), (75% Ar/25% CO ₂) 1/16 in (1.6 mm), (100% CO ₂) 1/16 in (1.6 mm), (75% Ar/25% CO ₂)



Revision: 1/17/2025

Notice: Be sure to follow all your employers safety practices, policies and procedures when using this product. Refer to CSA W117.2 and ANSI Z49.1 Safety in Welding, Cutting and Allied Processes for further information and the manufactures SDS sheet. The results reported are based upon testing of the product under controlled laboratory conditions in accordance with American Welding Society Standards. Actual use of the product may produce different results due to varying conditions. An example of such conditions would be electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedure and service requirements. Thus the results are not guarantees for use in the field. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.

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RECOMMENDED WELDING PARAMETERS **

Diameter in (mm)	Shielding Gas	Position	WFS* in/min (m/min)	Amps	Volts	CTWD* in (mm)
0.045 (1.2 mm)	100% CO2	All Positions	200 (5.1)	145	24	1/2 - 5/8 (13 - 16)
		All Positions	235 (6.0)	160	25	1/2 - 5/8 (13 - 16)
		All Positions	300 (7.6)	185	27	1/2 - 5/8 (13 - 16)
		Flat & Horizontal	375 (9.5)	215	28	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	440 (11.2)	235	30	5/8 - 3/4 (16 - 19)
0.052 (1.3 mm)	100% CO2	All Positions	170 (4.3)	155	24	5/8 - 3/4 (16 - 19)
		All Positions	200 (5.1)	175	25	5/8 - 3/4 (16 - 19)
		All Positions	250 (6.4)	225	27	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	310 (7.9)	250	28	3/4 - 1 (19 - 25)
		Flat & Horizontal	395 (10.0)	280	30	3/4 - 1 (19 - 25)
1/16 (1.6 mm)	100% CO2	All Positions	125 (3.2)	165	24	5/8 - 3/4 (16 - 19)
		All Positions	150 (3.8)	195	25	5/8 - 3/4 (16 - 19)
		All Positions	185 (4.7)	225	27	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	265 (6.7)	280	28	3/4 - 1 (19 - 25)
		Flat & Horizontal	325 (8.3)	320	30	3/4 - 1 (19 - 25)

* WFS = Wire Feed Speed, CTWD = Contact Tip To Work Distance

**The parameters listed are recommended starting points of operation and the ranges for amperage, wfs, and voltage could be extended based on fitness for application. For products with "all-position" capability, as determined and listed in classification, the position recommendation can be determined based on operator skill and material thickness and isn't limited to the listing.

For 75-80% Ar/Balance CO2 shielding gas, decrease voltage by 1 to 1.5 volts

APPROVALS

Agency	Approval	Shielding Gas	Diameter(s) in (mm)
ABS	3YSA (H10)	M21 (75%Ar / 25%CO2)	0.045 (1.2) - 1/16 (1.6)
		C1 (100%CO2)	0.045 (1.2) - 1/16 (1.6)
CWB CSA W48-23	E491T1-C1A3-CS1-H8	C1 (100%CO2)	0.035 (0.9) - 1/16 (1.6)
	E491T1-M21A3-CS1-H8	M21 (75%Ar / 25%CO2)	0.030 (0.8) - 1/16 (1.6)

PACKAGING (lbs (kgs))

33 (15) Spools, 60 (27.2) Coils, 500 (226.8) Round Drum, 800 (362.9) Hex Drum, 900 (408.2) Hex Drum

*Some packaging options may not be available depending on diameter and product. Special package options may be available upon request.

STORAGE AND HANDLING

All products should be stored in original packaging, in dry conditions and handled with care. For more information refer to our website.



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