

AWS E71T-1C, E71T-1M, E71T-9C, E71T-9M H8

Excel Arc™ 71**DESCRIPTION:**

Excel-Arc 71 is a flux-cored wire that is designed for general purpose fabrication, welding in all positions. It can be used with either 100% CO₂ or 75% Ar/25% CO₂ shielding gas, offering a spray type transfer of weld metal. Excel-Arc 71 provides good impact strength at low temperatures. It also has low spatter levels and the slag is easy to remove. Excel-Arc is available in .045", .052" and 1/16" diameters with the optional H8 hydrogen designator. Other diameters which may be available do not carry this optional designator.

APPLICATIONS:

Mild and low alloy steels.

FEATURES:

- Low fumes and low spatter
- Easy slag removal
- Bridges poor fit-up
- Good impact strength

BENEFITS:

- Increases welder appeal and productivity
- Reduces clean-up
- Increases productivity, fewer rejected parts
- Provides increased toughness at low temperatures

SHIELDING GAS: 100% CO₂, 75% Ar/25% CO₂**TYPE OF CURRENT:** DCEP**TYPICAL WELD METAL PROPERTIES*(Chem Pad):**

Weld Metal Analysis	100% CO ₂	75% Ar/25% CO ₂
Carbon (C)	0.021	0.022
Manganese (Mn)	1.30	1.6
Silicon (Si)	0.69	0.82
Sulphur (S)	0.011	0.010
Phosphorus (P)	0.015	0.014

TYPICAL DIFFUSIBLE HYDROGEN:

(GAS CHROMATOGRAPHY)	5.0 ml/100 g	5.7 ml/100 g

TYPICAL MECHANICAL PROPERTIES*(Aged 48 hrs @ 220°F):

	87,700 psi (605 MPa)	96,000 psi (662 MPa)
Tensile Strength		
Yield Strength	79,100 psi (546 MPa)	85,800 psi (592 MPa)
Elongation % in 2"	27.6%	25.6%

TYPICAL CHARPY V-NOTCH IMPACT VALUES*(AW):

	70 ft•lbs (95 Joules)	59 ft•lbs (80 Joules)
Avg. at 0°F (-18°C)		
Avg. at -20°F (-29°)	51 ft•lbs (69 Joules)	50 ft•lbs (68 Joules)

CONFORMANCES AND APPROVALS:

- AWS A5.20, E71T-1C, E71T-1M, E71T-9C, E71T-9M H8, ASME SFA 5.20, E71T-1C/M
- ABS 100% CO₂ 3SA 3YSA H10, 75% Ar/25% CO₂ 3SA, 3YSA H10
- Burea Veritas SA3YM HH
- CWB 100% CO₂ E491T-9 H8, 80% Ar/20% CO₂ E491T-9M H8
- DNV III Y40M H10
- Germanischer Lloyd 100% CO₂ 3YH10S
- Lloyd's Register 100% CO₂ 3S 3YS H10
- Mil-E24403/1, Class MIL-71T-1C

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WELDING DATA:

Diameter		Optimum Welding Parameter	Weld Position	Amps	Volts	Wire-Feed Speed in/min	Deposition Rate lbs/hr	Stickout ±1/4"
Inches	mm							
100% CO₂								
.035	.09		Vertical up, Overhead	125	23	330	3.8	1/2"
.035	.09		Vertical up, Overhead	150	24	410	4.7	1/2"
.035	.09	*	Vertical up, Overhead	175	25	545	6.3	1/2"
.035	.09		Horizontal & Flat	175	25	545	6.3	1/2"
.035	.09	*	Horizontal & Flat	200	26	645	7.6	1/2"
.035	.09		Horizontal & Flat	225	28	785	9.4	1/2"
See above: For 75% AR/25% CO ₂ , reduce voltage by 1.								
100% CO₂								
.045	1.2	*	Vertical up, Overhead	170	23	260	4.4	1/2"
.045	1.2		Vertical up, Overhead	185	24	310	6.1	1/2"
.045	1.2		Vertical up, Overhead	220	25	383	7.5	1/2"
.045	1.2	*	Horizontal & Flat	260	27	500	8.9	1/2"
75 Ar/25% CO₂								
.045	1.2		Vertical up, Overhead	170	22	260	4.5	1/2"
.045	1.2		Vertical up, Overhead	185	23	310	6.2	1/2"
.045	1.2		Vertical up, Overhead	220	24	383	7.6	1/2"
.045	1.2		Horizontal & Flat	250	26	500	9.0	1/2"
100% CO₂								
.052	1.3	*	Vertical up, Overhead	170	24	191	5.0	3/4"
.052	1.3		Vertical up, Overhead	200	25	210	5.6	3/4"
.052	1.3		Vertical up, Overhead	230	26	270	6.5	3/4"
.052	1.3		Horizontal	260	27	320	8.1	3/4"
.052	1.3		Flat	300	28	381	9.5	3/4"
75 Ar/25% CO₂								
.052	1.3	*	Vertical up, Overhead	175	22	191	5.1	3/4"
.052	1.3		Vertical up, Overhead	200	23	210	5.7	3/4"
.052	1.3		Vertical up, Overhead	230	24	270	6.6	3/4"
.052	1.3		Horizontal	260	25	320	8.2	3/4"
.052	1.3		Flat	300	26	381	9.6	3/4"
100% CO₂								
1/16	1.6	*	Vertical up, Overhead	215	24	160	5.6	1"
1/16	1.6		Vertical up, Overhead	245	25	189	6.5	1"
1/16	1.6		Horizontal	280	26	225	7.8	1"
1/16	1.6		Flat	360	29	329	12.0	1"
75 Ar/25% CO₂								
1/16	1.6	*	Vertical up, Overhead	215	22	160	5.7	1"
1/16	1.6		Vertical up, Overhead	245	23	189	6.6	1"
1/16	1.6		Horizontal	280	24	225	7.9	1"
1/16	1.6		Flat	360	27	329	12.1	1"

TYPICAL APPLICATIONS: • Low-alloy steels • Mild Steels • Multi-pass applications • Single-pass applications

CAUTION:

Consumers should be thoroughly familiar with the safety precautions on the warning label posted in each shipment and in the American National Standard Z49.1, "Safety in Welding and Cutting," published by the American Welding Society, 550 NW LeJune Road, Miami, FL 33126; OSHA Safety and Health Standards 29 CFR 1910 is available from the U.S. Department of Labor, Washington, D.C. 20210

Material Safety Data Sheets on any Hobart Brothers Company product may be obtained from Hobart Customer Service.

Because Hobart Brothers Company is constantly improving products, Hobart reserves the right to change design and/or specifications without notice.

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