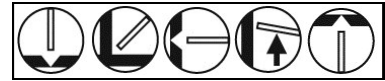


Excel-Arc™ 71



AWS A5.20: E71T-1C H8, E71T-1M H8,
E71T-9C H8, E71T-9M H8
EN17632-A: T 46 3 P C/M 2 H10

WELDING POSITIONS:



FEATURES:

- Fast-freezing slag
- Low fumes and spatter
- Easy slag removal
- Able to bridge poor fit-up without burn-through
- Good impact toughness

BENEFITS:

- Excellent out-of-position capability
- Increases welder appeal and productivity
- Reduces clean-up time, minimizes risk of inclusions
- Increases productivity, reduces part rework/rejection
- Resists cracking in severe applications

APPLICATIONS:

- Non-alloyed and fine grain steels
- Single and multi-pass welding
- Structural fabrication
- General Fabrication
- Heavy equipment

SLAG SYSTEM: Fast-freezing, rutile-type, flux-cored wire

SHIELDING GAS: 100% Carbon Dioxide (CO₂), 75-80% Argon (Ar)/Balance Carbon Dioxide (CO₂), 35-50 cfm (17-24 l/min)

TYPE OF CURRENT: Direct Current Electrode Positive (DCEP)

STANDARD DIAMETERS: 0.035" (0.9 mm), 0.045" (1.2 mm), 0.052" (1.4 mm), 1/16" (1.6 mm)

RE-DRYING: Not recommended

STORAGE: Product should be stored in a dry, enclosed environment, and in its original intact packaging

TYPICAL WELD METAL CHEMISTRY* (Chem Pad):

Weld Metal Analysis (%)	100% CO ₂	75% Ar/25% CO ₂	AWS Spec
Carbon (C)	0.021	0.022	0.12
Manganese (Mn)	1.30	1.60	1.75
Silicon (Si)	0.69	0.82	0.90
Sulphur (S)	0.011	0.010	0.03
Phosphorus (P)	0.015	0.014	0.03

Note: AWS specification single values are maximums.

TYPICAL DIFFUSIBLE HYDROGEN*:

Hydrogen Equipment	100% CO ₂	75% Ar/25% CO ₂	AWS Spec
(GAS CHROMATOGRAPHY)	3.8 ml/100g	4.8 ml/100g	8.0 ml/100g Maximum

TYPICAL MECHANICAL PROPERTIES* [Aged 48 Hrs. @ 200°F (93°C)]:

Mechanical Tests	100% CO ₂	75% Ar/25% CO ₂	AWS Spec
Tensile Strength	84,000 psi (579 MPa)	90,000 psi (619 MPa)	70,000-95,000 psi (490-670 MPa)
Yield Strength	77,000 psi (531 MPa)	83,000 psi (571 MPa)	58,000 psi (390 MPa) Minimum
Elongation % in 2" (50 mm)	28%	26%	22% Minimum

TYPICAL CHARPY V-NOTCH IMPACT VALUES* (As Welded):

CVN Temperatures	100% CO ₂	75% Ar/25% CO ₂	AWS Spec
Avg. at 0°F (-20°C)	101 ft•lbs (137 Joules)	91 ft•lbs (123 Joules)	20 ft•lbs (27 Joules) Minimum
Avg. at -20°F (-30°C)	80 ft•lbs (108 Joules)	69 ft•lbs (94 Joules)	20 ft•lbs (27 Joules) Minimum

*The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and Hobart Brothers Company expressly disclaims any liability incurred from any reliance thereon. Typical data are those obtained when welded and tested in accordance with AWS A5.20 specification. Other tests and procedures may produce different results. No data is to be construed as a recommendation for any welding condition or technique not controlled by Hobart Brothers Company.

Excel-Arc™ 71

Diameter Inches (mm)	Weld Position	Amps	Volts	Wire-Feed Speed		Deposition Rate		Contact Tip to Work Distance	
				in/min (m/min)	lbs/hr (kg/hr)	Inches (mm)	(mm)		
0.035 (0.9)	All Position	125	23	330 (8.4)	3.8 (1.7)	1/2 (13)			
0.035 (0.9)	All Position	150	24	410 (10.4)	4.7 (2.1)	1/2 (13)			
0.035 (0.9)	All Position	175	25	545 (13.5)	6.3 (2.9)	1/2 (13)			
0.035 (0.9)	Flat & Horizontal	200	26	645 (16.4)	7.6 (3.4)	1/2 (13)			
0.035 (0.9)	Flat & Horizontal	225	28	785 (19.9)	9.4 (4.3)	1/2 (13)			
0.045 (1.2)	All Position	170	23	260 (6.6)	4.4 (2.0)	5/8 (16)			
0.045 (1.2)	All Position	185	24	310 (7.9)	6.1 (2.7)	5/8 (16)			
0.045 (1.2)	All Position	200	25	340 (7.7)	6.2 (2.8)	5/8 (16)			
0.045 (1.2)	All Position	220	25	380 (9.7)	7.5 (3.4)	3/4 (19)			
0.045 (1.2)	Flat & Horizontal	260	27	500 (12.7)	8.9 (4.0)	3/4 (19)			
0.045 (1.2)	Flat & Horizontal	300	29	590 (15.0)	12.3 (5.6)	3/4 (19)			
0.052 (1.4)	All Position	170	24	190 (4.8)	5.0 (2.3)	3/4 (19)			
0.052 (1.4)	All Position	200	25	210 (5.3)	5.6 (2.5)	3/4 (19)			
0.052 (1.4)	All Position	250	26	275 (7.0)	7.5 (3.4)	3/4 (19)			
0.052 (1.4)	Flat & Horizontal	260	27	320 (8.1)	8.1 (3.7)	3/4 (19)			
0.052 (1.4)	Flat & Horizontal	300	28	380 (9.6)	9.5 (4.3)	1 (25)			
0.052 (1.4)	Flat & Horizontal	350	30	570 (14.5)	14.4 (6.5)	1 (25)			
1/16 (1.6)	All Position	215	24	160 (4.1)	5.6 (2.5)	1 (25)			
1/16 (1.6)	All Position	245	25	190 (4.8)	6.5 (3.0)	1 (25)			
1/16 (1.6)	All Position	275	26	225 (5.7)	7.8 (3.5)	1 (25)			
1/16 (1.6)	Flat & Horizontal	280	27	240 (6.0)	9.3 (4.2)	1 (25)			
1/16 (1.6)	Flat & Horizontal	360	28	330 (8.4)	12.0 (5.4)	1 (25)			
1/16 (1.6)	Flat & Horizontal	400	30	430 (10.9)	16.5 (7.5)	1 (25)			

- **Maintaining a proper welding procedure - including pre-heat and interpass temperatures - may be critical depending on the type and thickness of steel being welded.**
- **See Above:** This information was determined by welding using 100% CO₂ shielding gas with a flow rate between 35-50 cfh (17-24 l/min). When using 75% Ar/25% CO₂ shielding gas, reduce voltage by 1 volt.
- **All positions include:** Flat, Horizontal, Vertical Up, and Overhead.

STANDARD DIAMETERS AND PACKAGES: For a complete list of diameters and packaging, please contact Hobart Brothers at (800) 424-1543, or (937) 332-5188 for International Customer Service.

Diameter Inches (mm)	15-lb. (7kg) Spool	33-lb. (15kg) Spool	44-lb. (20kg) Spool	60-lb. (27.2kg) Coil	600-lb. (272kg) Drum
0.035 (0.9)	—	S247108-029	—	—	—
0.045 (1.2)	S247112-023	S247112-029	S247112-044	S247112-002	—
0.052 (1.4)	S247115-023	S247115-029	S247115-044	S247115-002	S247115-056
1/16 (1.6)	—	S247119-029	S247119-044	S247119-002	S247119-056

CONFORMANCES AND APPROVALS:

- **AWS A5.20**, E71T-1C H8, E71T-1M H8, E71T-9C H8, E71T-9M H8
- **AWS A5.20M**, E491T-1C H8, E491T-1M H8, E491T-9C H8, E491T-9M H8
- **ASME SFA 5.20**, E71T-1C H8, E71T-1M H8, E71T-9C H8, E71T-9M H8
- **ABS**, 100% CO₂ 3YSA H10, 75% Ar/25% CO₂, 3YSA H10 (0.045" - 1/16" diameter electrodes)
- **Bureau Veritas**, 100% CO₂, S3YM HH (0.045" - 1/16" diameter electrodes)
- **CWB**, 100% CO₂ E491T-9-H8, 75-80% Ar/Balance CO₂, E491T-9M-H8 (1.2 mm - 1.6 mm diameter electrodes)
- **DNV**, 100% CO₂, Y40MS (H10)
- **EN17632-A**: T 46 3 P C/M 2 H10
- **CE Marked** per CPR 305/2011
- **Lloyd's Register**, 100% CO₂, 3YS H10
- **AWS D1.8/D1.8M**, 100% CO₂ & 75% Ar/25% CO₂, (0.045" [1.2 mm] & 1/16" [1.6 mm] diameter electrodes)

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 or at www.hobartbrothers.com.

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

Hobart is a registered trademark of Hobart Brothers Company, Troy, Ohio.

Excel-Arc is a trademark of Hobart Brothers Company, Troy, Ohio.

Revision Date: **140107** (Replaces 130828)

636-Y, INDEX

