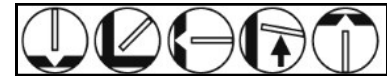


# FabCO<sup>®</sup> 712M



AWS A5.20: E71T-1MJ H4, E71T-9MJ H4, E71T-12MJ H4  
 AWS A5.29: E81T1-GM H4  
 EN ISO 17632-A T42 6 P M21 2 H5

## WELDING POSITIONS:



### FEATURES:

- Fast freezing slag
- Low diffusible hydrogen
- Low moisture pickup
- Excellent CVN impact toughness
- Maintains CVN toughness after stress relief

### BENEFITS:

- Suitable for all position welding
- Helps minimize risk of hydrogen-induced cracking, can lower preheat requirements in certain applications
- Maintains low diffusible hydrogen following atmospheric exposure
- Resists cracking in severe applications
- Exceeds 20 ft•lbs (27J) CVN impact strength @ -76°F (-60°C) after 10 Hrs of stress relief

### APPLICATIONS:

- Non-alloyed and fine grain steels
- Single or multi-pass welding
- Offshore drilling rigs
- Jackup rig fabrication
- Transmission and process piping
- Shipbuilding

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

**SHIELDING GAS:** 75-80% Argon (Ar)/Balance Carbon Dioxide (CO<sub>2</sub>), 35-50 cfh (17-24 l/min)

**TYPE OF CURRENT:** Direct Current Electrode Positive (DCEP)

**STANDARD DIAMETERS:** 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 (%)	75% Ar/25% CO <sub>2</sub>	AWS Spec
Carbon (C)	0.06	0.12
Manganese (Mn)	1.44	1.60
Silicon (Si)	0.33	0.90
Sulphur (S)	0.008	0.030
Phosphorus (P)	0.006	0.030
Nickel (Ni)	0.41	0.50
Boron (B)	0.0030	Not specified

**Note:** AWS specification single values are maximums.

### TYPICAL DIFFUSIBLE HYDROGEN\*:

Hydrogen Equipment	75% Ar/25% CO <sub>2</sub>	AWS Spec
	As Received	
(GAS CHROMATOGRAPHY)	3.4 ml/100 g	4.0 ml/100 g Maximum

### TYPICAL MECHANICAL PROPERTIES\*:

Mechanical Tests	As Welded		PWHT 10 Hrs @ 1150°F (620°C)	
	75% Ar/25% CO <sub>2</sub>	AWS Spec	75% Ar/25% CO <sub>2</sub>	AWS Spec
Tensile Strength	87,000 psi (599 MPa)	70,000 - 90,000 psi (490-620 MPa)	81,000 psi (558 MPa)	Not specified
Yield Strength	80,000 psi (551 MPa)	58,000 psi (390 MPa) Minimum	71,000 psi (489 MPa)	Not specified
Elongation % 2" (50 mm)	26%	22% Minimum	30%	Not specified

### TYPICAL CHARPY V-NOTCH IMPACT VALUES\*:

CVN Temperatures	As Welded		PWHT 10 Hrs @ 1150°F (620°C)	
	75% Ar/25% CO <sub>2</sub>	AWS Spec	75% Ar/25% CO <sub>2</sub>	AWS Spec
Avg. at -40°F (-40°C)	126 ft•lbs (170 Joules)	20 ft•lbs (27 Joules) Min. "J" Req.	120 ft•lbs (162 Joules)	Not specified
Avg. at -50°F (-45°C)	107 ft•lbs (145 Joules)	Not specified	107 ft•lbs (145 Joules)	Not specified
Avg. at -76°F (-60°C)	81 ft•lbs (109 Joules)	Not specified	69 ft•lbs (93 Joules)	Not specified

\*The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and Hobart Brothers LLC expressly disclaims any liability incurred from any reliance thereon. Typical data are those obtained when welded and tested in accordance with the 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 LLC.

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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)
0.045	(1.2)	All Position	200	25	310	(8.6)	6.0	(2.8)	3/4	(19)
0.045	(1.2)	All Position	225	25	430	(10.8)	7.2	(3.3)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	250	26	450	(11.4)	8.6	(3.8)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	275	27	475	(13.5)	10.2	(4.7)	3/4	(19)
0.052	(1.4)	All Position	200	26	205	(5.2)	5.5	(2.5)	3/4	(19)
0.052	(1.4)	All Position	225	26	345	(8.7)	6.4	(2.9)	3/4	(19)
0.052	(1.4)	Flat & Horizontal	260	27	400	(10.2)	8.9	(4.0)	1	(25)
0.052	(1.4)	Flat & Horizontal	275	27	530	(13.5)	14.3	(6.5)	1	(25)
1/16	(1.6)	All Position	200	26	180	(4.6)	6.6	(1.6)	1	(25)
1/16	(1.6)	All Position	240	26	210	(5.3)	7.6	(3.6)	1	(25)
1/16	(1.6)	Flat & Horizontal	270	28	250	(6.3)	9.1	(4.3)	1	(25)
1/16	(1.6)	Flat & Horizontal	320	28	305	(6.3)	11.1	(5.0)	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 75% Ar/25% CO<sub>2</sub> shielding gas with a flow rate between 35-50 cfm (17-24 l/min). When welding using 80% Ar/20% CO<sub>2</sub> shielding gas, reduce voltage one volt.
- **All positions include:** Flat, Horizontal, Vertical Up, and Overhead.

**AVAILABLE 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)	33-lb. (15kg) Vacuum-Packed Spool
<b>Net Pallet Weight</b>		<b>2376-lb. (1078 kg)</b>
0.045	(1.2)	S237512-053
0.052	(1.4)	S237515-053
1/16	(1.6)	S237519-053

## CONFORMANCES AND APPROVALS:

- **AWS A5.20**, E71T-1MJ H4, E71T-9MJ H4, E71T-12MJ H4
- **AWS A5.29**, E81T1-GM H4
- **AWS A5.20M**, E491T-1MJ H4, E491T-9MJ H4, E491T-12MJ H4
- **AWS A5.29M**, E551T-GM H4
- **ASME SFA 5.20**, E71T-1MJ H4, E71T-9MJ H4, E71T-12MJ H4
- **ASME SFA 5.29**, E81T-GM H4
- **ABS**, M21-75% Ar/Balance CO<sub>2</sub>, 5Y400 H5 [.045" - .052" diameter electrodes]
- **CWB**, 75% Ar/25% CO<sub>2</sub>, E491T1-M21A4-CS2-H4 (E491T-12MJ-H4) [1.2 mm - 1.4 mm diameter electrode]
- **EN ISO 17632-A** T42 6 P M21 2 H5
- **CE Marked** per CPR 305/2011

**TECHNICAL QUESTIONS?** For technical support of Hobart Filler Metals products, contact the Applications Engineering department by phone toll-free at 1-800-532-2618 or by e-mail at [Applications.Engineering@hobartbrothers.com](mailto:Applications.Engineering@hobartbrothers.com)

## 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, 8669 NW 36th St., Miami, FL 33166 (can also be downloaded online at [www.aws.org](http://www.aws.org)); OSHA Safety and Health Standards 29 CFR 1910 is available from the U.S. Department of Labor, Washington, D.C. 20210

Safety Data Sheets on any Hobart Brothers LLC product may be obtained from Hobart Customer Service or at [www.hobartbrothers.com](http://www.hobartbrothers.com).

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

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**Revision Date: 250116 (Replaces 230815)**

