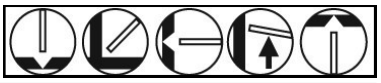
FabCO® 712M

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

WELDING POSITIONS:



FEATURES:	BENEFITS:
• Fast freezing slag	• Suitable for all position welding
• Low diffusible hydrogen	• Helps minimize risk of hydrogen-induced cracking, can lower preheat requirements in certain applications
• Low moisture pickup	• Maintains low diffusible hydrogen following atmospheric exposure
• Excellent CVN impact toughness	• Resists cracking in severe applications
• Maintains CVN toughness after stress relief	• 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_2), 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)

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_2	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_2	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_2	AWS Spec	75% Ar/25% CO_2	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 % in 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_2	AWS Spec	75% Ar/25% CO_2	AWS Spec
Avg. at -40°F (-40°C)	126 ft•lbs (170 Joules)	20 ft•lbs (27 Joules) Minimum "J" Requirement	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 in/min	(m/min)	Deposition Rate lbs/hr	(kg/hr)	Contact Tip to Work Distance Inches	(mm)
0.045	(1.2)	All Position	125	23	180	(4.5)	3.3	(1.5)	3/4	(19)
0.045	(1.2)	All Position	200	24	340	(8.6)	6.3	(2.8)	3/4	(19)
0.045	(1.2)	All Position	225	24	430	(10.8)	7.2	(3.3)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	250	24	450	(11.4)	8.6	(3.8)	3/4	(19)
0.052	(1.4)	All Position	140	24	140	(3.6)	3.2	(1.5)	3/4	(19)
0.052	(1.4)	All Position	225	24	345	(8.7)	6.4	(2.9)	3/4	(19)
0.052	(1.4)	Flat & Horizontal	260	24	400	(10.2)	8.9	(4.0)	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_2 shielding gas with a flow rate between 35-50 cfh (17-24 l/min). When welding using 80% Ar/20% CO_2 shielding gas, reduce voltage up to 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
0.045	(1.2)	S237512-053
0.052	(1.4)	S237515-053

CONFORMANCES AND APPROVALS:

- **AWS A5.20,** E71T-1MJ H4, E71T-9MJ H4, E71T-12MJ H4
- **AWS A5.20M,** E491T-1MJ H4, E491T-9MJ H4, E491T-12MJ H4
- **ASME SFA 5.20,** E71T-1MJ H4, E71T-9MJ H4, E71T-12MJ H4
- **CWB,** 75% Ar/25% CO_2, 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

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); 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.

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

Revision Date: 210416 (Replaces 190927)

HOBART FILLER METALS