

FabCO[®] XL-525



AWS A5.20: E71T-1MJ H8, E71T-9MJ H8, E71T-12MJ H8
EN ISO 17632-A T42 4 P M21 2 H10

WELDING POSITIONS:



FEATURES:

- Excellent weld metal toughness, even at low temperatures
- Low fume generation rates
- Excellent arc characteristics and fast-freezing slag
- Very low spatter
- "H8" low-hydrogen weld deposit

BENEFITS

- Helps minimize the risk of cracking in demanding and critical applications
- Increases puddle visibility and operator appeal, helps improve the working environment
- Provides excellent operator appeal, puddle control, and weld contour when welding in all positions
- Reduces clean-up time, helps improve productivity
- Helps minimize risk of hydrogen induced cracking

APPLICATIONS:

- Single or multi-pass welding
- Structural and bridge fabrication
- Heavy equipment
- Non-alloyed and fine grain steel
- Ship and barge construction
- General fabrication
- Pressure vessels

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

SHIELDING GAS: 75-85% Argon (Ar) / Balance Carbon Dioxide (CO₂), 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 CHEMICAL COMPOSITION* (Chem Pad):

Weld Metal Analysis (%)	75% Ar/25% CO ₂	80% Ar/20% CO ₂	AWS Spec.
Carbon (C)	0.04	0.04	0.12
Manganese (Mn)	1.01	1.01	1.60
Silicon (Si)	0.27	0.30	0.90
Phosphorus (P)	0.010	0.007	0.030
Sulphur (S)	0.006	0.004	0.030
Nickel (Ni)	0.32	0.34	0.50

Note: AWS Specification single values are maximums

TYPICAL WELD METAL DIFFUSIBLE HYDROGEN*:

Hydrogen Equipment	75% Ar/25% CO ₂	80% Ar/20% CO ₂	AWS Spec.
(GAS CHROMATOGRAPHY)	3.0 ml/100 g	3.6 ml/100 g	8.0 ml/100 g Maximum

TYPICAL MECHANICAL PROPERTIES (As Welded)*:

Mechanical Tests	75% Ar/25% CO ₂	80% Ar/20% CO ₂	AWS Spec.
Tensile Strength	80,000 psi (552 MPa)	81,000 psi (558 MPa)	70,000-90,000 psi (520-620 MPa)
Yield Strength	73,000 psi (503 MPa)	75,000 psi (517 MPa)	58,000 psi (400 MPa) Minimum
Elongation % in 2" (50 mm)	29%	28%	22% 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 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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TYPICAL CHARPY V-NOTCH IMPACT VALUES* (As Welded):

CVN Temperatures	75% Ar/25% CO ₂	80% Ar/20% CO ₂	AWS Spec.
Avg. @ -0°F (-20°C)	100 ft-lbs (136 Joules)	120 ft-lbs (163 Joules)	20 ft-lbs (27 Joules) Minimum
Avg. @ -20°F (-30°C)	85 ft-lbs (115 Joules)	—	20 ft-lbs (27 Joules) Minimum
Avg. @ -40°F (-40°C)	70 ft-lbs (95 Joules)	75 ft-lbs (102 Joules)	20 ft-lbs (27 Joules) Minimum "J" Requirement

TYPICAL OPERATING PARAMETERS*:

Diameter		Weld Position	Amps	Volts	Wire Feed Speed		Deposition Rate		Contact Tip to Work Distance	
Inches	(mm)				in/min	(m/min)	lbs/hr	(kg/hr)	Inches	(mm)
0.045	(1.2)	All Position	100	24	220	(5.6)	4.4	(2.0)	5/8	(16)
0.045	(1.2)	All Position	200	25	370	(9.4)	7.6	(3.4)	3/4	(19)
0.045	(1.2)	All Position	210	25	430	(10.9)	9.0	(4.1)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	250	27	530	(13.5)	10.9	(4.9)	3/4	(19)
0.052	(1.4)	Flat & Horizontal	175	23	160	(4.1)	4.2	(1.9)	3/4	(19)
0.052	(1.4)	Flat & Horizontal	210	26.5	265	(6.7)	7.2	(3.3)	1	(25)
0.052	(1.4)	Flat & Horizontal	250	28.5	355	(9.0)	9.7	(4.4)	1	(25)
1/16	(1.6)	All Position	225	23	195	(5.0)	6.8	(3.1)	1	(25)
1/16	(1.6)	Flat & Horizontal	275	25	270	(6.9)	9.6	(4.4)	1	(25)

- **Maintaining a proper welding procedure - including pre-heat and interpass temperatures - may be critical depending on the type and thickness of the steel being welded.**
- **See Above:** This information was determined by welding using 75% Ar/25% CO₂ shielding gas with a flow rate between 35-50 cfh (17-24 l/min).
- **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

Diameter	33-lb. (15 kg)	60-lb. (27.2 kg)	600-lb. (272 kg)
Inches (mm)	Spool	Spool	S-Pak
Net Pallet Weight	2376-lb. (1077 kg)	1920-lb. (871 kg)	2400-lb. (1088 kg)
0.045 (1.2)	S283212-029	—	S283212-056
0.052 (1.4)	S283215-029	—	—
1/16 (1.6)	S283219-029	S283219-002	—

CONFORMANCES AND APPROVALS

- **AWS A5.20**, E71T-1MJ H8, E71T-9MJ H8, E71T-12MJ H8
- **AWS A5.20M**, E491T-1MJ H8, E491T-9MJ H8, E491T-12MJ H8
- **ASME SFA 5.20**, E71T-1MJ H8, E71T-9MJ H8, E71T-12MJ H8
- **ABS**, 75% Ar/25% CO₂, 3YSA
- **ABS**, 80% Ar/20% CO₂, 3YSA (Guaranteed 34J CVN toughness @ -40°C)
- **Bureau Veritas**, 80% Ar/20% CO₂, S3YM
- **CWB**, 85% Ar/15% CO₂, E491T1-M20A4-CS2-H4 (E491T-12MJ-H4)
- **CWB**, 75-80% Ar/CO₂ Balance, E491T1-M21A4-CS2-H4 (E491T-12MJ-H4)
- **CWB**, 92% Ar/8% CO₂, E491T1-M20A4-CS2-H4 (E491T-12MJ-H4)
- **DNV-GL**, 75-80% Ar/Balance CO₂, III Y40MS
- **EN ISO 17632-A**: T42 4 P M21 2 H10
- **Lloyd's Register**, 80% Ar/20% CO₂, 3YS H5
- **AWS D1.8 Conformance**, 75% Ar/25% CO₂, (0.052" diameter)

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 36 St, Miami, FL 33166-6672 (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.

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