

Formula XL-525



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

WELDING POSITIONS:



FEATURES:

- High impact strengths at low temperatures
- Low fume generation rates
- Excellent arc characteristics
- Virtually no spatter

BENEFITS:

- Resists cracking in severe applications
- Increases operator appeal, improves working environment
- Increases operator appeal, enhances usability
- Increases productivity, reduces clean-up time

APPLICATIONS:

- Non-alloyed and fine grain steels
- Single or multi-pass welding
- General fabrication
- Ship and barge construction

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

SHIELDING GAS: 75-85% Argon (Ar)/Balance Carbon Dioxide (CO₂), 35-50 cfh (14-24 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	80% Ar/20% CO ₂	AWS Spec
Carbon (C)	0.03	0.12
Manganese (Mn)	1.10	1.60
Silicon (Si)	0.30	0.90
Phosphorus (P)	0.009	0.030
Sulphur (S)	0.003	0.030
Nickel (Ni)	0.34	0.50

Note: AWS specification single values are maximums.

TYPICAL DIFFUSIBLE HYDROGEN*:

Hydrogen Equipment	80% Ar/20% CO ₂	AWS Spec
(GAS CHROMATOGRAPHY)	4.5 ml/100g	8.0 ml/100g Maximum

TYPICAL MECHANICAL PROPERTIES* (AS WELDED):

Mechanical Tests	80% Ar/20% CO ₂	AWS Spec
Tensile Strength	80,000 psi (552 MPa)	70,000-90,000 psi (490-620 MPa)
Yield Strength	72,000 psi (499 MPa)	58,000 (390 MPa) Minimum
Elongation % in 2" (50 mm)	29%	20% Minimum

TYPICAL CHARPY V-NOTCH IMPACT VALUES* (AS WELDED):

CVN Temperatures	80% Ar/20% CO ₂	AWS Spec
CVN @ 0°F (-20°C)	120 ft•lbs (163 Joules)	20 ft•lbs (27 Joules) Minimum
CVN @ -40°F (-40°C)	75 ft•lbs (102 Joules)	20 ft•lbs (27 Joules) Minimum "J" Designation

*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 Company.

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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)
0.035 (0.9)	All Position	130	23	265	(6.7)	3.3	(1.5)	1/2	(13)
0.035 (0.9)	All Position	175	26	455	(11.6)	5.9	(2.7)	1/2	(13)
0.035 (0.9)	All Position	200	27	540	(13.7)	6.8	(3.1)	1/2	(13)
0.035 (0.9)	All Position	225	28	640	(16.3)	8.3	(3.7)	1/2	(13)
0.035 (0.9)	Flat & Horizontal	250	29	780	(19.8)	10.2	(4.6)	1/2	(13)
0.045 (1.2)	All Position	100	24	220	(5.6)	4.4	(2.0)	1/2	(13)
0.045 (1.2)	All Position	200	25	370	(9.4)	7.6	(3.4)	3/4	(19)
0.045 (1.2)	Flat & Horizontal	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	(5.0)	3/4	(19)
0.052 (1.4)	All Position	175	23	160	(4.1)	4.2	(1.9)	3/4	(19)
0.052 (1.4)	All Position	200	26	225	(5.7)	6.1	(2.8)	3/4	(19)
0.052 (1.4)	All Position	250	28	320	(8.1)	8.7	(4.0)	3/4	(19)
0.052 (1.4)	Flat & Horizontal	325	29	435	(11.0)	11.9	(5.4)	3/4	(19)
0.052 (1.4)	Flat & Horizontal	400	35	585	(14.9)	16.0	(7.3)	3/4	(19)
1/16 (1.6)	All Position	250	24	180	(4.6)	6.6	(3.0)	3/4	(19)
1/16 (1.6)	All Position	275	25	210	(5.3)	7.9	(3.6)	3/4	(19)
1/16 (1.6)	All Position	350	27	290	(7.4)	11.0	(5.0)	3/4	(19)
1/16 (1.6)	Flat & Horizontal	400	28	410	(10.4)	15.8	(7.2)	3/4	(19)
1/16 (1.6)	Flat & Horizontal	475	29	530	(13.5)	20.3	(9.2)	3/4	(19)

- **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 performed with 75% Ar/25% CO₂ shielding gas with a flow rate between 35-50 cfh (14-24 l/min).
- **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)	10-lb (4.5kg) Spool	33-lb (15kg) Spool	60-lb (27kg) Coil	600-lb (272kg) X-Pak
0.035 (0.9)	—	S283208-029	—	—
0.045 (1.2)	S283212-022	S283212-029	—	S283212-056
0.052 (1.4)	S283215-022	S283215-029	S283215-002	—
1/16 (1.6)	—	S283219-029	S283219-002	—

CONFORMANCES AND APPROVALS:

- **AWS A5.20**, E71T-1M H8, E71T-12MJ H8
- **AWS A5.20M**, E491T-1M H8, E491T-12MJ H8
- **ASME SFA 5.20**, E71T-1M H8, E71T-12MJ H8
- **ABS**, 75% Ar/25% CO₂, 3YSA, E71T-1M-MIL, 80% Ar/20% CO₂, 3YSA
- **Bureau Veritas**, 80% Ar/20% CO₂, S3YM
- **CWB**, 75-85% Ar/Balance CO₂, E491T-12MJ-H4
- **DNV**, 75-85% Ar/Balance CO₂, III Y40MS
- **Lloyd's Register**, 80% Ar/20% CO₂, 3YS H15
- **MIL-E-24403/1**, **MIL-71T-1M**, **MIL-71T-1-HYM**
- **AWS D1.8 Conformance**, 75% Ar/25% CO₂ [0.052" (1.4 mm)]

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, # 130, Doral, 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

Material Safety Data Sheets on any Hobart Brothers Company product may be obtained from Hobart Customer Service or at www.hobartbrothers.com.

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