

FabCO[®] 101



AWS A5.29: E101T1-GM

WELDING POSITIONS:



FEATURES:

- Fast-freezing slag
- Smooth, stable arc
- Excellent low-temperature impact toughness
- Low hydrogen weld deposit
- Low spatter levels

BENEFITS:

- Excellent out-of-position performance with flat bead contour
- Improves operator appeal and weld bead consistency
- Minimizes risk of cracking in critical applications
- Helps minimize risk of hydrogen-induced cracking
- Reduces clean-up time, improves productivity
- Increased operator appeal, helps improve the work environment

APPLICATIONS:

- Single or multi-pass welding
- Heavy equipment
- 100ksi [690MPa] tensile-strength High strength low-alloy (HSLA)
- Structural fabrication
- ASTM A514 (>2" [50mm] thickness)
- 100ksi [690MPa] tensile-strength Quench & temper steels (Q&T) steels
- Transmission piping
- ASTM A710

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

SHIELDING GAS: 75% Argon (Ar)/25% Carbon Dioxide (CO₂), 35-50 cfm (17-24 l/min)

TYPE OF CURRENT: Direct Current Electrode Positive (DCEP)

STANDARD DIAMETERS: 0.045" (1.2 mm), 1/16" (1.6 mm)

RE-DRYING: Not recommended

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

TYPICAL WELD METAL CHEMISTRY* (Chem Pad):

Weld Metal Analysis %	75% Ar/25% CO ₂	AWS Spec
Carbon (C)	0.08	Not specified
Manganese (Mn)	1.63	0.50 Minimum‡
Silicon (Si)	0.29	1.00 Maximum
Phosphorus (P)	0.007	0.030 Maximum
Sulphur (S)	0.006	0.030 Maximum
Nickel (Ni)	1.90	0.50 Minimum‡
Molybdenum (Mo)	0.01	0.20 Minimum‡

‡Note: AWS A5.29/A5.29M requires at least one (but not all) of the elements noted to meet the minimum composition values.

TYPICAL DIFFUSIBLE HYDROGEN*:

Hydrogen Equipment	75% Ar/25% CO ₂	AWS Spec
(GAS CHROMATOGRAPHY)	5.1 ml/100g	Not specified

TYPICAL MECHANICAL PROPERTIES* (As Welded):

Mechanical Tests	75% Ar/25% CO ₂	AWS Spec
Tensile Strength	109,000 psi (752 MPa)	100,000-120,000 psi (690-830 MPa)
Yield Strength	102,000 psi (703 MPa)	88,000 psi (610 MPa) Minimum
Elongation % in 2" (50 mm)	22%	16% Minimum

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

CVN Temperatures	75% Ar/25% CO ₂	AWS Spec
Avg. at -40°F (-40°C)	66 ft•lbs (89 Joules)	Not specified
Avg. at -60°F (-51°C)	57 ft•lbs (77 Joules)	Not specified
Avg. at -76°F (-60°C)	48 ft•lbs (65 Joules)	Not specified

*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 A5.29 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		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	150	22	250	(6.4)	5.0	(2.3)	3/4	(19)
0.045	(1.2)	All Position	200	22	315	(8.0)	6.3	(2.9)	3/4	(19)
0.045	(1.2)	All Position	225	24	415	(10.5)	8.2	(3.7)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	275	26	530	(13.5)	10.1	(4.6)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	300	28	605	(15.4)	12.1	(5.5)	3/4	(19)
1/16	(1.6)	All Position	175	22	160	(4.1)	4.7	(2.1)	3/4	(19)
1/16	(1.6)	All Position	225	25	210	(5.3)	7.1	(3.2)	3/4	(19)
1/16	(1.6)	All Position	275	27	275	(7.0)	9.5	(4.3)	1	(25)
1/16	(1.6)	Flat & Horizontal	350	30	370	(9.4)	12.6	(5.7)	1	(25)
1/16	(1.6)	Flat & Horizontal	400	32	430	(10.9)	16.1	(7.3)	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% CO₂ shielding gas with a flow rate between 35-50 cfh (17-24 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		10-lb. (4.5kg)	33-lb. (15kg)	60-lb. (27.2kg)
Inches	(mm)	Spool	Spool	Coil
0.045	(1.2)	S241012-032	S241012-053	—
1/16	(1.6)	—	—	S241019-002

CONFORMANCES AND APPROVALS:

- **AWS A5.29**, E101T1-GM
- **AWS A5.29M**, E691T1-GM
- **ASME SFA 5.29**, E101T1-GM
- **ABS**, ISO-18276-B, T694T1-1MA-N3M1-UH5

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.

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