

METALLOY[®] VANTAGE[™]

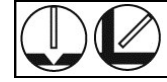


AWS A5.18: E70C-6M H4
EN17632-A: T46 3 M M 3 H5

AWS
WELDING POSITIONS



EN
WELDING POSITIONS



FEATURES:

- Virtually no silicon deposits at weld bead toe lines
- Excellent gap bridging capabilities
- Excellent wetting characteristics
- Capable of higher deposition rates and travel speeds than solid wire

BENEFITS:

- Reduces clean-up time, minimizes risk of inclusions
- Minimizes burn-through, reduces part rejection
- Assists in producing smooth weld beads with uniform fusion
- Increases productivity, more parts per hour

APPLICATIONS:

- Non-alloyed and fine grain steels
- Heavy equipment
- Transportation
- Robotic and mechanized welding
- Agriculture
- Mining

WIRE TYPE: Gas-shielded, metal-powder, metal-cored wire

SHIELDING GAS: 75-95% Argon (Ar)/Balance Carbon Dioxide (CO₂), 35-50 cfh (17-24 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 (%)	75% Ar/25% CO ₂	90% Ar/10% CO ₂	AWS Spec
Carbon (C)	0.05	0.05	0.12
Manganese (Mn)	1.33	1.50	1.75
Silicon (Si)	0.63	0.72	0.90
Phosphorus (P)	0.006	0.010	0.03
Sulphur (S)	0.007	0.012	0.03
Nickel (Ni)	0.42	0.42	0.50

Note: AWS specification single values are maximums.

TYPICAL DIFFUSIBLE HYDROGEN*:

Hydrogen Equipment	75% Ar/25% CO ₂	90% Ar/10% CO ₂	AWS Spec
(GAS CHROMATOGRAPHY)	1.5 ml/100g	2.1 ml/100g	4.0 ml/100g Maximum

TYPICAL MECHANICAL PROPERTIES* (As Welded):

Mechanical Tests	75% Ar/25% CO ₂	90% Ar/10% CO ₂	AWS Spec
Tensile Strength	91,000 psi (630 MPa)	97,000 psi (669 MPa)	70,000 psi (480 MPa) Minimum
Yield Strength	81,000 psi (561 MPa)	87,000 psi (600 MPa)	58,000 psi (400 MPa) Minimum
Elongation % in 2" (50 mm)	25%	22%	22% Minimum

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

CVN Temperatures	75% Ar/25% CO ₂	90% Ar/10% CO ₂	AWS Spec
CVN @ 0°F (-20°C)	50 ft•lbs (68 Joules)	56 ft•lbs (76 Joules)	Not specified
CVN @ -20°F (-30°C)	38 ft•lbs (52 Joules)	47 ft•lbs (64 Joules)	20 ft•lbs (27 Joules) 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 A5.18 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)	Flat & Horizontal	150	26	320	(8.1)	4.6	(2.1)	1/2	(13)
0.035 (0.9)	Flat & Horizontal	200	27	450	(11.4)	6.9	(3.1)	1/2	(13)
0.035 (0.9)	Flat & Horizontal	250	29	590	(15.0)	9.2	(4.2)	1/2	(13)
0.045 (1.2)	Flat & Horizontal	200	25	225	(5.7)	5.9	(2.7)	5/8	(16)
0.045 (1.2)	Flat & Horizontal	250	26	315	(8.0)	7.9	(3.6)	5/8	(16)
0.045 (1.2)	Flat & Horizontal	300	27	440	(11.2)	11.7	(5.3)	3/4	(19)
0.045 (1.2)	Flat & Horizontal	350	28	600	(12.7)	16.2	(7.3)	3/4	(19)
0.045 (1.2)	Flat & Horizontal	375	30	760	(19.3)	20.7	(9.4)	3/4	(19)
0.052 (1.4)	Flat & Horizontal	250	24	240	(6.1)	8.4	(3.8)	3/4	(19)
0.052 (1.4)	Flat & Horizontal	300	25	355	(9.0)	12.5	(5.7)	1	(25)
0.052 (1.4)	Flat & Horizontal	350	27	460	(11.7)	16.6	(7.5)	1	(25)
0.052 (1.4)	Flat & Horizontal	400	30	555	(14.1)	20.0	(9.1)	1	(25)
1/16 (1.6)	Flat & Horizontal	250	25	150	(3.8)	6.9	(3.1)	3/4	(19)
1/16 (1.6)	Flat & Horizontal	300	27	220	(5.6)	10.1	(4.6)	1	(25)
1/16 (1.6)	Flat & Horizontal	350	28	270	(6.9)	12.8	(5.8)	1	(25)
1/16 (1.6)	Flat & Horizontal	400	30	335	(8.5)	16.1	(7.3)	1	(25)
1/16 (1.6)	Flat & Horizontal	450	32	400	(10.3)	19.6	(8.9)	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 90% Ar/10% CO₂ shielding gas with a flow rate between 35-50 cfm (17-24 l/min). For the 75-80% Ar/Balance CO₂ shielding gas requirements of AWS A5.18/A5.18M, increase listed voltages by 1-3 volts.

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)	33-lb. (15kg) Spool	50-lb. (22.7kg) Spool	60-lb. (27.2kg) Coil	500-lb. (226.8kg) X-Pak	750-lb. (340.2kg) X-Pak
0.035 (0.9)	S279308-K29	—	—	S279308-K50	—
0.045 (1.2)	S279312-K29	S279312-K27	S279312-K02	S279312-K50	S279312-K75
0.052 (1.4)	S279315-K29	S279315-K27	S279315-K02	S279315-K50	S279315-K75
1/16 (1.6)	S279319-K29	—	S279319-K02	—	S279319-K75

CONFORMANCES AND APPROVALS:

- **AWS A5.18**, E70C-6M H4
- **AWS A5.18M**, E48C-6M H4
- **ASME SFA 5.18**, E70C-6M H4
- **ABS**, 80% Ar/20% CO₂, 3YSA H5 (0.045" - 1/16" diameter electrodes, flat & horizontal positions)
- **ABS**, 90% Ar/10% CO₂, 3YSA H5 (0.035" - 0.045" diameter electrodes, all positions)
- **CWB**, 75-95% Ar/Balance CO₂, E491C-6MJ-H4 (1.2 mm diameter electrode)
- **CWB**, 75-95% Ar/Balance CO₂, E492C-6MJ-H4 (1.4 - 1.6 mm diameter electrodes)
- **EN17632-A**: T46 3 M M 3 H5
- **CE Marked** per CPR 305/2011
- **AWS D1.8/D1.8M**, 75% Ar/25% CO₂, [0.052" (1.4 mm) diameter electrode]

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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