

AWS ER70S-6

WELDING POSITIONS:



FEATURES:

- Excellent feedability
- Consistent feeding
- Excellent wetting characteristics
- High in deoxidizers

BENEFITS:

- Greater productivity
- Increased consumable life and feeds well through longer gun cables
- Smooth weld beads with uniform tie-in
- Best choice for rusty and oily plates

APPLICATIONS:

- Automotive frames
- Construction equipment
- Rail cars
- Farm implements
- Pressure vessels
- Pipe and tubing
- Non-alloyed and fine grain steels
- Robotic, automatic, and semi-automatic welding

SHIELDING GAS: 100% Carbon Dioxide (CO₂), 75-92% Argon (Ar)/Balance Carbon Dioxide (CO₂), 25-50 cfh (9.4-24 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 CHEMICAL VALUES*:

	Wire Melt Button	AWS Wire Spec
Carbon (C)	0.10	0.06-0.15
Manganese (Mn)	1.54	1.40-1.85
Silicon (Si)	0.92	0.80-1.15
Phosphorus (P)	0.013	0.025 max
Sulphur (S)	0.013	0.025 max
Copper (Cu)	0.13	0.50 [†] max

[†] Copper content of wire and copper coating.

TYPICAL MECHANICAL PROPERTIES* (AS WELDED):

Mechanical Tests	100% CO ₂	75% Ar/25% CO ₂	AWS Spec (min)
Tensile Strength	86,000 psi (593 MPa)	88,000 psi (607 MPa)	70,000 psi (480 MPa)
Yield Strength	69,000 psi (476 MPa)	73,000 psi (503 MPa)	58,000 psi (400 MPa)
Elongation % in 2" (50 mm)	28%	28%	22%
Reduction in Area	68%	68%	not specified

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

CVN Temperatures	100% CO ₂	75% Ar/25% CO ₂	AWS Spec (min)
Avg. at 70°F (20°C)	96 ft•lbs (130 Joules)	140 ft•lbs (190 Joules)	not specified
Avg. at 0°F (-20°C)	65 ft•lbs (88 Joules)	100 ft•lbs (136 Joules)	not specified
Avg. at -20°F (-30°C)	50 ft•lbs (68 Joules)	88 ft•lbs (119 Joules)	20 ft•lbs (27 Joules)

*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 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.



Diameter Inches	(mm)	Transfer Mode	Amps	Volts	Wire-Feed Speed		Travel Speed		Deposition Rate		Contact Tip to Work Distance	
					in/min	(m/min)	In/min	(cm/min)	lbs/hr	(kg/hr)	Inches	(mm)
0.035	(0.9)	Short-Circuit	70	17.0	95	(2.4)	20	(51)	1.3	(0.6)	1/4	(6)
0.035	(0.9)	Short-Circuit	85	18.5	130	(3.3)	28	(70)	1.7	(0.8)	1/4	(6)
0.035	(0.9)	Short-Circuit	100	18.5	150	(3.8)	28	(70)	2.0	(0.9)	1/4	(6)
0.035	(0.9)	Short-Circuit	115	19.5	190	(4.8)	28	(70)	2.5	(1.1)	1/4	(6)
0.035	(0.9)	Short-Circuit	145	20.5	225	(5.7)	25	(64)	3.3	(1.5)	3/8	(10)
0.035	(0.9)	Short-Circuit	155	20.5	265	(6.7)	20	(51)	3.5	(1.6)	3/8	(10)
0.035	(0.9)	Spray	165	23.5	330	(8.4)	20	(50)	5.3	(2.4)	5/8	(16)
0.035	(0.9)	Spray	185	24.5	370	(9.4)	18	(44)	5.9	(2.7)	5/8	(16)
0.035	(0.9)	Spray	205	24.5	410	(10.4)	15	(38)	6.5	(2.9)	3/4	(19)
0.035	(0.9)	Spray	235	25.5	465	(11.8)	14	(34)	7.3	(3.3)	3/4	(19)
0.045	(1.2)	Spray	175	23.5	175	(4.4)	19	(47)	4.7	(2.1)	5/8	(16)
0.045	(1.2)	Spray	195	24.5	200	(5.1)	17	(42)	5.3	(2.4)	5/8	(16)
0.045	(1.2)	Spray	215	25.5	230	(5.8)	14	(34)	4.6	(2.1)	3/4	(19)
0.045	(1.2)	Spray	260	27.0	310	(7.9)	15	(37)	8.1	(3.7)	3/4	(19)
0.045	(1.2)	Spray	325	27.0	425	(10.8)	15	(38)	11.1	(5.0)	3/4	(19)
0.045	(1.2)	Spray	350	28.0	475	(12.1)	15	(38)	12.5	(5.6)	3/4	(19)
0.052	(1.4)	Spray	290	27.0	280	(7.1)	15	(38)	9.8	(4.4)	3/4	(19)
0.052	(1.4)	Spray	325	27.0	330	(8.4)	15	(38)	11.6	(5.2)	3/4	(19)
0.052	(1.4)	Spray	390	29.0	420	(10.7)	13	(32)	14.8	(6.7)	3/4	(19)
1/16	(1.6)	Spray	350	27.0	260	(6.6)	14	(36)	13.3	(6.0)	3/4	(19)
1/16	(1.6)	Spray	400	29.0	300	(7.6)	12	(30)	15.4	(7.0)	3/4	(19)

Note: Short circuit transfer shielding gas is 100% CO₂ or 75% Ar/25% CO₂ at 20-35 cfm (9.4-16.5 l/min)
 Note: Spray transfer shielding gas is 90% Ar/10% CO₂ at 35-50 cfm (14-24 l/min)

- **Maintaining a proper welding procedure - including pre-heat and interpass temperatures - may be critical depending on the type and thickness of steel being welded.**

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 in. (mm)	33-lb. Steel Reel™	45-lb. Steel Reel™	45-lb. Spool	60-lb. Spool	500-lb. RoboPak®	600-lb. RoboPak®	300-lb. Recyclable RoboPak®	600-lb. Recyclable RoboPak®	950-lb. Recyclable RoboPak®
0.035 (0.9)	S307608-033	S307608-045	S307608-085	S307608-028	—	S307608-011	S307608-073	S307608-074	S307608-070
0.040 (1.0)	—	—	S307610-085	—	—	—	—	—	—
0.045 (1.2)	S307612-033	S307612-045	S307612-085	S307612-028	—	S307612-011	—	S307612-074	S307612-070
0.052 (1.4)	—	—	—	S307615-028	—	—	—	—	S307615-070
1/16 (1.6)	—	S307618-045	—	S307618-028	S307618-013	—	—	—	—

CONFORMANCES AND APPROVALS:

- AWS A5.18, ER70S-6
- AWS A5.18M, ER48S-6
- ASME SFA 5.18, F-6, A-1, ER70S-6
- CWB to CSA W48, ER49S-6

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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