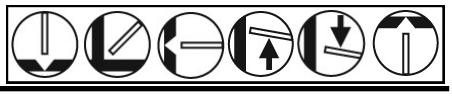
Quantum Arc™ 6

AWS ER70S-6

WELDING POSITIONS:



FEATURES: **BENEFITS:**

- Excellent feedability — Greater productivity
- Consistent feeding — Increased consumable life and feeds well through longer gun cables
- Excellent wetting characteristics — Smooth weld beads with uniform tie-in
- High in deoxidizers — 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 (CO_2), 75-92% Argon (Ar)/Balance Carbon Dioxide (CO_2), 25-50 cfh (12-24 l/min)

TYPE OF CURRENT: Direct Current Electrode Positive (DCEP)

STANDARD DIAMETERS: 0.035" (0.9 mm), 0.045" (1.2 mm)

RE-DRYING: Not recommended

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

TYPICAL CHEMICAL VALUES*:

Weld Metal Analysis	Wire Melt Button	AWS Wire Spec
Carbon (C)	0.10	0.06-0.15
Manganese (Mn)	1.43	1.40-1.85
Silicon (Si)	0.83	0.80-1.15
Phosphorus (P)	0.007	0.025 max
Sulphur (S)	0.005	0.025 max
Copper (Cu)	0.20	0.50† max

† Copper content of wire and copper coating.

TYPICAL MECHANICAL PROPERTIES* (As Welded):

Mechanical Tests	100% CO_2	AWS Spec
Tensile Strength	88,000 psi (607 MPa)	70,000 psi (480 MPa) Minimum
Yield Strength	75,000 psi (507 MPa)	58,000 psi (400 MPa) Minimum
Elongation % in 2" (50 mm)	26%	22% Minimum

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

CVN Temperatures	100% CO_2	AWS Spec
Avg. at -20°F (-30°C)	73 ft•lbs (99 Joules)	20 ft•lbs (27 Joules) Minimum

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Diameter Inches	(mm)	Transfer Mode	Amps	Volts	Wire-Feed Speed in/min	(m/min)	Deposition Rate lbs/hr	(kg/hr)	Contact Tip to Work Distance Inches	(mm)
0.035	(0.9)	Short-Circuit	70	17.0	95	(2.4)	1.3	(0.6)	1/4	(6)
0.035	(0.9)	Short-Circuit	85	18.5	130	(3.3)	1.7	(0.8)	1/4	(6)
0.035	(0.9)	Short-Circuit	100	18.5	150	(3.8)	2.0	(0.9)	1/4	(6)
0.035	(0.9)	Short-Circuit	115	19.5	190	(4.8)	2.5	(1.1)	1/4	(6)
0.035	(0.9)	Short-Circuit	145	20.5	225	(5.7)	3.3	(1.5)	3/8	(10)
0.035	(0.9)	Short-Circuit	155	20.5	265	(6.7)	3.5	(1.6)	3/8	(10)
0.035	(0.9)	Spray	165	23.5	330	(8.4)	5.3	(2.4)	5/8	(16)
0.035	(0.9)	Spray	185	24.5	370	(9.4)	5.9	(2.7)	5/8	(16)
0.035	(0.9)	Spray	205	24.5	410	(10.4)	6.5	(2.9)	3/4	(19)
0.035	(0.9)	Spray	235	25.5	465	(11.8)	7.3	(3.3)	3/4	(19)
0.045	(1.2)	Spray	175	23.5	175	(4.4)	4.7	(2.1)	5/8	(16)
0.045	(1.2)	Spray	195	24.5	200	(5.1)	5.3	(2.4)	5/8	(16)
0.045	(1.2)	Spray	215	26.0	230	(5.8)	4.6	(2.1)	3/4	(19)
0.045	(1.2)	Spray	260	28.5	310	(7.9)	8.1	(3.7)	3/4	(19)
0.045	(1.2)	Spray	325	29.0	425	(10.8)	11.1	(5.0)	3/4	(19)
0.045	(1.2)	Spray	350	30.0	475	(12.1)	12.5	(5.6)	3/4	(19)
0.052	(1.4)	Spray	290	27.0	280	(7.1)	9.8	(4.4)	3/4	(19)
0.052	(1.4)	Spray	325	27.0	330	(8.4)	11.6	(5.2)	3/4	(19)
0.052	(1.4)	Spray	390	29.0	420	(10.7)	14.8	(6.7)	3/4	(19)

Note: Short circuit transfer shielding gas is 100% CO_2 or 75% Ar/25% CO_2 at 20-35 cfh (9-17 l/min)
Note: Spray transfer shielding gas is 90% Ar/10% CO_2 at 35-50 cfh (17-24 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.**
- **For out of position welding, short circuit or pulsed spray transfer modes must be used.**
- **Pulse waveforms are designed with nominal operating points that may result in average voltage and current values that differ from the above table. Generally, pulse processes can be expected to produce lower heat inputs than a standard CV process.**

COMMONLY ORDERED PART NUMBERS.

Diameter in.	(mm)	33-lb. Steel Reel™	45-lb. Steel	45-lb. Spool	60-lb. Spool	300-lb. Recyclable RoboPak®	600-lb. RoboPak®	600-lb. Recyclable RoboPak®	950-lb. Recyclable RoboPak®
Net Pallet Weight		2376-lb. (1078kg)	3240-lb. (1470kg)	3240-lb. (1470kg)	1920-lb. (871kg)	1200-lb. (544kg)	2400-lb. (1089kg)	2400-lb. (1089kg)	1900-lb. (862kg)
0.035	(0.9)	S307608-033	S307608-045	S307608-085	—	S307608-073	S307608-011	S307608-074	S307608-070
0.045	(1.2)	S307612-033	S307612-045	S307612-085	S307612-028	S307612-073	S307612-011	S307612-074	S307612-070
0.052	(1.4)	—	—	—	S307615-028	—		S307615-074	S307615-070

CONFORMANCES AND APPROVALS:

- **AWS A5.18,** ER70S-6
- **AWS A5.18M,** ER48S-6
- **ASME SFA 5.18,** F-6, A-1, ER70S-6
- **CWB** W48-14 B-G 49A 3 C1 S6 (B-G 49A 3 C G6)

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 36th St., Miami, FL 33166 (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.

Because Hobart Brothers LLC is constantly improving products, Hobart reserves the right to change design and/or specifications without notice.

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