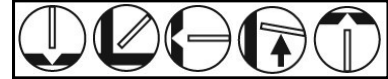


# MEGAFIL<sup>®</sup> 819R



AWS A5.29: E81T1-Ni1C H4, E81T1-Ni1MJ H4  
EN 17632-A: T 50 6 1Ni P M 1 H5

## WELDING POSITIONS:



### FEATURES:

- Unique seamless wire manufacturing process
- Seamless wire prevents moisture pick-up and provides a low-hydrogen deposit
- Fast-freezing slag
- Excellent arc stability
- Good low-temperature impact toughness
- Cracked-Tip Opening Displacement (CTOD) tested; data available upon request

### BENEFITS:

- Provides very consistent chemical and mechanical properties
- Minimizes risk of hydrogen cracking, even after considerable atmospheric exposure
- Suitable for all-position welding with a flat bead contour
- Helps produce welds of consistent appearance and quality
- Minimizes risk of cracking in many critical applications
- Weld deposit is able to absorb energy and resist crack formation and propagation

### APPLICATIONS:

- Single or multi-pass welding
- Heavy equipment
- Storage vessels
- Structural fabrication
- Offshore
- HSLA steels
- Pipeline
- General fabrication
- Weathering steels

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

**SHIELDING GAS:** 75-85% Argon (Ar)/Balance Carbon Dioxide (CO<sub>2</sub>), 100% CO<sub>2</sub>, 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 intact packaging.

### TYPICAL WELD METAL PROPERTIES\* (Chem Pad):

Weld Metal Analysis (%)	80% Ar/ 20% CO <sub>2</sub>	100% CO <sub>2</sub>	AWS A5.29 Spec Ni1
Carbon (C)	0.03	0.02	0.12
Manganese (Mn)	1.30	0.80	1.50
Silicon (Si)	0.49	0.23	0.80
Phosphorus (P)	0.012	0.014	0.030
Sulphur (S)	0.011	0.011	0.030
Nickel (Ni)	0.86	0.87	0.80-1.10
Chromium (Cr)	0.04	0.03	Not specified
Molybdenum (Mo)	0.01	0.01	Not specified
Vanadium (V)	0.02	0.02	0.05

**Note:** AWS specification single values are maximums.

### TYPICAL DIFFUSIBLE HYDROGEN\*:

Hydrogen Equipment	80% Ar/ 20% CO <sub>2</sub>	100% CO <sub>2</sub>	AWS Spec
(GAS CHROMATOGRAPHY)	2.3 ml/100 g	2.3 ml/100 g	4.0 ml/100 g Maximum

### TYPICAL MECHANICAL PROPERTIES\* [Aged 48 Hrs. @ 220°F (104°C)]:

Mechanical Tests	80% Ar/ 20% CO <sub>2</sub>	100% CO <sub>2</sub>	AWS Spec
Tensile Strength	88,000 psi (607 MPa)	82,000 psi (565 MPa)	80,000-100,000 psi (550-690 MPa)
Yield Strength	81,000 psi (558 MPa)	74,000 psi (510 MPa)	68,000 psi (470 MPa) Minimum
Elongation % in 2" (50 mm)	26%	27%	19% Minimum

### TYPICAL MECHANICAL PROPERTIES\* [PWHT 2 Hrs. @ 1150°F (621°C)]:

Mechanical Tests	80% Ar/ 20% CO <sub>2</sub>	AWS Spec
Tensile Strength	86,000 psi (593 MPa)	Not specified
Yield Strength	76,000 psi (524 MPa)	Not specified
Elongation % in 2" (50 mm)	25%	Not specified

\*The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and Hobart Brothers LLC 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 LLC.

# MEGAFIL<sup>®</sup> 819R

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

CVN Temperatures	80% Ar/ 20% CO <sub>2</sub>	100% CO <sub>2</sub>	AWS Spec
Avg. at -20°F (-30°C)	—	35 ft•lbs (47 Joules)	20 ft•lbs (27 Joules) Minimum
Avg. at -40°F (-40°C)	70 ft•lbs (95 Joules)	15 ft•lbs (20 Joules)	20 ft•lbs (27 Joules) Minimum "J" Designator
Avg. at -60°F (-50°C)	50 ft•lbs (68 Joules)	—	20 ft•lbs (27 Joules) Minimum

## TYPICAL CHARPY V-NOTCH IMPACT VALUES\* [PWHT 2 Hrs. @ 1150°F (621°C)]:

CVN Temperatures	80% Ar/ 20% CO <sub>2</sub>	AWS Spec
Avg. at -20°F (-30°C)	70 ft•lbs (95 Joules)	Not specified
Avg. at -40°F (-40°C)	65 ft•lbs (88 Joules)	Not specified

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)
0.045	(1.2)	All Position	150	22.5	175	(4.4)	3.8	(1.7)	5/8	(16)
0.045	(1.2)	All Position	175	23.5	226	(5.7)	5.0	(2.2)	5/8	(16)
0.045	(1.2)	All Position	200	24.0	278	(7.1)	6.1	(2.8)	3/4	(19)
0.045	(1.2)	All Position	225	24.5	327	(8.3)	7.2	(3.3)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	250	26	379	(9.6)	8.4	(3.8)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	300	27	480	(12.2)	10.6	(4.8)	3/4	(19)
1/16	(1.6)	All Position	200	23.5	120	(3.0)	4.7	(2.1)	3/4	(19)
1/16	(1.6)	All Position	225	24.0	141	(3.6)	5.5	(2.5)	1	(25)
1/16	(1.6)	All Position	250	24.5	172	(4.4)	6.7	(3.1)	1	(25)
1/16	(1.6)	All Position	275	25.0	204	(5.2)	8.0	(3.6)	1	(25)
1/16	(1.6)	Flat & Horizontal	300	25.5	235	(6.0)	9.2	(4.2)	1	(25)
1/16	(1.6)	Flat & Horizontal	350	26.5	298	(7.6)	11.7	(5.3)	1	(25)
1/16	(1.6)	Flat & Horizontal	400	27	361	(9.2)	14.2	(6.4)	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:** The information above was determined by welding using 80% Ar/20% CO<sub>2</sub> shielding gas with a flow rate between 35-50 cfh (17-24 l/min). When welding using 100% CO<sub>2</sub> shielding gas, increase voltage by approximately 1-2 volts.
- **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)	35-lb. (15.9kg) Spool
0.045	(1.2)	81915B
1/16	(1.6)	81933B

## CONFORMANCES AND APPROVALS:

**AWS A5.29**, E81T1-Ni1C H4, E81T1-Ni1MJ H4  
**AWS A5.29M**, E551T1-Ni1C H4, E551T1-Ni1MJ H4  
**ASME SFA 5.29**, E81T1-Ni1C H4, E81T1-Ni1MJ H4  
**CWB**, 75-80% Ar/Balance CO<sub>2</sub>, E551T1-Ni1M-J-H4 (E81T1-Ni1MJ-H4)  
**EN 17632-A**: T 50 6 1Ni P M 1 H5

**TECHNICAL QUESTIONS?** For technical support of Hobart MEGAFIL products, visit [www.HobartBrothers.com/MEGAFIL](http://www.HobartBrothers.com/MEGAFIL) OR contact the Applications Engineering department by phone toll-free at 1-800-532-2618 or by e-mail at [Applications.Engineering@HobartBrothers.com](mailto: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](http://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](http://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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