316L HiSil

AWS A5.9: ER316LSi

DESCRIPTION:

Featuring a silicon level that is higher than 316L, **316L HiSil** stainless steel wire also provides better wetting action, particularly for GMAW processes.

TYPICAL WIRE ANALYSIS:

Weld Metal Analysis (%)		AWS Spec
Carbon (C)	0.02	0.03 max
Manganese (Mn)	1.70	1.0 to 2.5
Phosphorus (P)	0.002	0.03 max
Silicon (Si)	0.85	0.65 to 1.0
Copper (Cu)	0.40	0.75 max
Chromium (Cr)	19.00	18.0 to 20.0
Nickel (Ni)	12.50	11.0 to 14.0
Iron (Fe)	Bal.	Bal.

TYPICAL MECHANICAL PROPERTIES* (As Welded):

Mechanical Tests		AWS Spec
Tensile Strength	87,000 psi (600 MPa)	Not required
Yield Strength	57,000 psi (393 MPa)	Not required
Elongation % in 2” (50 mm)	38%	Not required
DeLong Ferrite Number Range	8-16	Not required
Schaeffler Number Range	8-16	Not required
WRC Number Range (1992)	8-16	Not required

TYPICAL CHARPY V-NOTCH IMPACT VALUES*:

CVN Temperatures		AWS Spec
Avg. at room temperature	95 ft•lbs (129 Joules)	Not required
Avg. at -320°F (-196°C)	36 ft•lbs (49 Joules)	Not required

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316L HiSil

For Spray Transfer Welding with Bare Stainless Wire

Diameter Inches	(mm)	Weld Position	Type of Current	Amps	Volts	Stick-Out Inches	(mm)	98% Ar + 2% O_2 Flow Rate cfh	(l/min)
0.035	(0.9)	Flat & Horizontal	DCEP	150-225	23-26	1/2-3/4	(13-19)	35	(16.5)
0.045	(1.2)	Flat & Horizontal	DCEP	200-325	24-28	1/2-3/4	(13-19)	35	(16.5)
1/16	(1.6)	Flat & Horizontal	DCEP	300-350	24-27	1/2-3/4	(13-19)	35	(16.5)

For Short-Circuit Welding with Bare Stainless Wire

Diameter Inches	(mm)	Weld Position	Type of Current	Amps	Volts	Stick-Out Inches	(mm)	90% He - 7-1/2% Ar - 2-1/2% CO_2 cfh	(l/min)
0.035	(0.9)	Flat & Horizontal	DCEP	60-200	14-22	3/8-1/2	(10-13)	25	(11.8)
0.045	(1.2)	Flat & Horizontal	DCEP	75-225	15-23	3/8-1/2	(10-13)	25	(11.8)
1/16	(1.6)	Flat & Horizontal	DCEP	100-250	16-23	3/8-1/2	(10-13)	25	(11.8)

AVAILABLE DIAMETERS AND PACKAGES: (Spooled and Coiled)

Diameter Inches	(mm)	30-Lb. Spool
0.030	(0.8)	S527406-I26
0.035	(0.9)	S527408-I26
0.045	(1.2)	S527412-I26

CONFORMANCES AND APPROVALS:

- **AWS A5.9,** Class ER316LSi
- **ASME SFA 5.9**
- **CWB,** ER316LSi
- **ABS,** ER316LSi 98% Ar, 2% O_2, all position, DCEP (0.8 mm - 1.6 mm)

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 Company product may be obtained from Hobart Customer Service or at www.hobartbrothers.com.

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

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HOBART FILLER METALS