

AWS E309-16

Smootharc™ Plus 309-16

DESCRIPTION:

Smootharc Plus 309-16 is an electrode that is designed to the out-of-position welding of austenitic stainless steels to unalloyed or low alloy steels. It offers excellent welding performance and can also be used for welding buffer layers on unalloyed steels prior to joining to other austenitic stainless grade steels.

Note: Actual certs are included in every master carton of stainless stick electrodes art no charge.

FEATURES:

- Spray-like arc transfer
- Extremely high moisture resistance
- Directional arc
- Easy strike and re-strike
- All-position
- Self-detaching slag
- Electrode does not overheat

BENEFITS:

- Low spatter and less clean-up
- Extends shelf life of product in open environments
- Metal goes where directed, excellent for out-of-position welding
- Easy to use, less chance of starting defects
- Welds extremely well in flat, horizontal, vertical, and overhead positions
- Less cleaning time and less chance of slag inclusions
- Minimal stub loss, cost-effective

TYPICAL WELD METAL PROPERTIES**(Chem Pad):

Weld Metal Analysis		AWS Spec
Carbon (C)	0.06	0.15 max
Chromium (Cr)	23.0	22.0 to 25.0
Nickel (Ni)	12.9	12.0 to 14.0
Molybdenum (Mo)	0.1	0.75 max
Manganese (Mn)	0.7	0.5 to 2.5
Silicon (Si)	0.7	0.90 max
Phosphorus (P)	0.024	0.04 max
Sulphur (S)	0.025	0.03 max
Copper (Cu)	0.1	0.75 max

TYPICAL MECHANICAL PROPERTIES**(AW):

		AWS Spec (min)
Tensile Strength	90,000 psi (621 MPa)	80,000 psi
Yield Strength	72,000 psi (497 MPa)	not required
Elongation % in 2"	38%	30%
Schaeffler Number	6-15	not required
DeLong Ferrite	6-15	not required

CONFORMANCES AND APPROVALS:

- AWS A5.4, Class E309-16, ASME SFA 5.4

*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 A5.4 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.

Hobart Brothers Company • 400 Trade Square East • Troy, OH 45373
PH: (800) 424-1543 • FX: 800-541-6607 • www.hobartbrothers.com



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RECOMMENDED WELDING PROCEDURES:

- GENERAL:** DCEP (electrode positive, work negative) or AC
- ARC LENGTH:** Short (less than half the diameter of the electrode)
- FLAT & HORIZONTAL:** Angle electrode 10-15° from 90°
- VERTICAL-UP:** Use weaving techniques; reduced amperage compared to flat position setting
- OVERHEAD:** Use slight weaving motion within the puddle
- STORAGE:** Smootharc Plus electrodes have a high degree of moisture resistance; however for critical applications, the electrode should be held at 225°F after opening
- RECONDITIONING:** If exposed to atmosphere for extended periods, recondition at 500°F for one (1) hour

RECOMMENDED OPERATING PARAMETERS:

Diameter		Type of Power	Flat & Horizontal		
Inches	mm		Minimum Amps	Optimum Amps	Maximum Amps
3/32	2.4	DCEP or AC	45	65	80
1/8	3.2	DCEP or AC	55	105	120
5/32	4.0	DCEP or AC	65	140	170
3/16	4.8	DCEP or AC	160	170	205

AVAILABLE DIAMETERS AND PACKAGES:

Diameter		Length		6-lb. Can	10-lb. Can
Inches	mm	Inches	mm		
3/32	2.4	10	254	S735131-039	—
1/8	3.2	14	355	—	S735144-088
5/32	4.0	14	355	—	S735151-088
3/16	4.8	14	355	—	S735158-088

Material Safety Data Sheets on any Hobart Brothers Company product may be obtained from Hobart Customer Service.

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

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