

Stainless Steel Electrodes (MMAW)

SME 309L-16



 **SENOR[®]**
One Stop Solution for Welding & Brazing Consumables

SME 309L-16

Stick Electrodes (MMAW)

Stainless Steel

Classifications:

AWS SFA 5.4/SFA 5.4M : E309L-16

UNS Number : W30913

EN ISO 3581-A : E 22 12 L R 32

Characteristics:

The composition of SME 309L-16 weld metal is the 23.5 Cr, 13 Ni, same as that deposited by E309 Electrodes, Except for the lower carbon content. The 0.04 % maximum carbon content of these weld deposits ensure a higher ferrite content than the E309H, usually greater than 8FN and reduces the possibility of inter granular carbide precipitation. This thereby increase the resistance to of inter granular corrosion without the use of niobium (columbium). E309L deposits are not as strong at elevated temperature as the niobium – stabilized alloy or E309H deposits.

Applications:

1. E309L-16 Electrodes designed for dissimilar metal welding of joining mild steel to stainless steel
2. Such as joining Type 304 to mild or low alloy steel.
3. Welding the clad side of Type 304 clad steel.
4. Base metals include stainless steel plate, steel strip, steel tube, heat transfer tube, pressure vessel, steel bar, casting and forging.

Mechanical Properties – All-Weld:

Tensile Strength min – 520 MPa

Elongation Min – 30 %

Weld Metal Chemistry (wt%):

C	Cr	Ni	Mo	Mn	Si	P	S	Cu
0.04 max	22 - 25	12 - 14	0.75 max	0.5 - 2.5	1.0 max	0.04 max	0.03 max	0.75 max

Current Conditions: AC, DC (+):

2.5	3.15	4.0	5.0
50 - 75	80 - 100	120 - 150	170 -190

Re-drying Conditions:

To obtain best results Re-dry the Electrodes at 300°C for 1hour (optionally available in vacuum packed Condition, re-drying not required in this packaging)

Note On Usage:

1. Use Stainless Steel Wire brush, Clean the area to be weld.
2. Maintain Pre Heat and Inter pass Temperature up to 150°C.
3. To obtain best results re bake the electrodes at 300°C for 1 hour and keep it at 100°C to 150°C Prior to use.
4. Follow the recommended welding parameters to achieve good sound welds.
5. Do not use excessive currents. Hold short arc, Use good fit up on Joints.

Above are basic guidelines and will vary depending on joint design, number of passes and other factors.

WARNING

Protect yourself and others. Read and understand this warning. Do not remove this warning.

Fumes and Gases can be hazardous to your health

- Before use, read and understand the Material Safety Data Sheet (MSDS), the manufacturer's instructions, and your employer's safety practices.
- If MSDS is not enclosed. Obtain from your employer.
- Keep your head out of the fumes. See Section 5 of the MSDS for specific fume concentration limits.
- Use enough Ventilation, exhaust at the arc, or both, to keep fumes and gases from your breathing zone and the general area. If needed, use a proper respirator.
- No hazards exist before this product is used in arc welding.

Electric Shock can kill

- Always wear dry insulating gloves
- Insulate yourself from work and ground.
- Do not touch live electrical parts.

ARC Rays can injure eyes and burn skin

- Wear welding helmet with correct filter.
- Wear correct eye, ear, and body protection.

Welding can cause fire or explosion

- Do not weld near flammable material.
- Watch for fire, keep, extinguisher nearby.

Read American National Standards Z49.1, "Safety In Welding, Cutting and Allied Process." from American Welding Society.