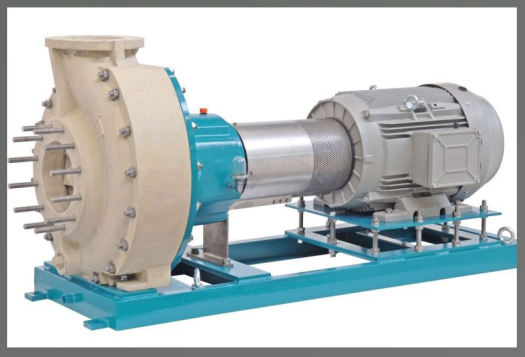
Stainless Steel Electrodes (MMAW)

SME 309-16



SENOR®

One Stop Solution for Welding & Brazing Consumables

SME 309-16 | Stick Electrodes (MMAW) | Stainless Steel

Classifications:

AWS SFA 5.4/SFA 5.4M : E309-16
UNS Number : W30910
EN ISO 3581-A : E 22 12 R 32

Characteristics:

The Nominal Composition of SME E309-16 weld is 23.5Cr, 13Ni with carbon levels allowed up to 0.15 % and typical ferrite levels from 3 to 20 FN. Electrodes of this composition are used for welding similar composition in wrought or cast form. They are also used for welding similar steels, such as joining Type 304 to carbon or low alloy steel, welding the clad side of type 304-clad steels, making the first layer of a 308 weld cladding and applying stainless steel linings to carbon steel shells. Embrittlement or cracking can occur if these dissimilar steel welds are subjected to a post weld heat treatment or to service above 370 °C. occasionally, they are used to weld type 304 and similar base metals where sever corrosion conditions exist requiring higher alloy weld metal.

Applications:

1. SME309-16 electrodes suitable for joining dissimilar metals such as 18Cr-8Ni stainless steel to mild steel and welding clad surfaces of steel.
2. SME309-16 is primarily intended for welding heat resistant austenitic Chromium-Nickel steels of similar analysis such as AISI 309 or 309S.
3. SME309-16 is such as joining Type 304 to carbon or low alloy steel, welding the clad side of type 304-clad steels.
4. Uused for welding similar composition in wrought or cast form.

Mechanical Properties – All-Weld:

Tensile Strength min – 550 MPa
Elongation Min – 30 %

Weld Metal Chemistry (wt%):

C	Cr	Ni	Mo	Mn	Si	P	S	Cu
0.15	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.