# FINE E - 309MO

**AWS A/SFA 5.4 E 309 MO - 16**
**IS 5206 E 23.12.2 R 26**

## APPLICATION :-

Dissimilar joints between stainless and mild or low alloy steels. Joining ferritic – martensitic 410 and 430 type stainless steels. Buffer layer on mild and low alloy steels prior to overlaying. Welding of similar composition 309Mo type stainless steels, ASTM stainless steels 409, 409s, pipe ASTM A249, A312, A409, A814 grades TP 309S, 309.

## CHARACTERISTICS ON USAGE :-

A Rutile flux coated extra low carbon electrode which deposits a 23%Cr / 13%Ni / 2.5%Mo austenitic stainless steel weld metal. The high alloy content and ferrite level enable the weld metal to tolerate dilution from mild and low alloy steels without hot cracking or brittle structure. It is widely used to apply buffer layers on steel components where final layers are to be deposited using 316L or other stainless steel electrodes. The deposited weld metal is of X-ray quality. The electrode is ideal for both fillet and butt welding applications. Type 309Mo weld metal is one of the most versatile for welding mixed combination of low and high alloy ferrous materials. It has superior tolerance to dilution than 309 or 309L because of its higher alloy and ferrite content.

## NOTES ON USAGE :-

Short and intermittent welding is to be preferred to avoid overheating and distortion.

### # Typical Mechanical Properties of weld metal

| Ultimate Tensile Strength MPa | Yield Stress MPa | Elongation (%) (L = 4D) | Impact Value | |
|---|---|---|---|---|
| | | | Temp | Joules |
| 550-660 | 405 - 490 | 30 - 40 | 0° C | 60 - 100 |

Redrying : - 300° C / 2 hrs.

### # Typical Chemical Composition of weld metal

| C | Mn | SI | Cr | Ni | Mo | S | P | Cu | Fe |
|---|---|---|---|---|---|---|---|---|---|
| 0.040 max | 0.5–2.5 | 0.30-0.70 | 22-25 | 12-14 | 2.0 – 3.0 | 0.025 max | 0.03 max | 0.50 max | 14 % |

### # Welding Currents

| 2.50mm | 3.15mm | 4mm | 5mm |
|---|---|---|---|
| 50-75 | 80-100 | 110-140 | 150-180 |

### # Packing

| WIRE | CONTAINT |
|---|---|
| 2.50 X 350 M.M. | 2 Kg. x 5 Pkt. = 10 |
| 3.15 X 350 M.M. | 2 Kg. x 5 Pkt. = 10 |
| 4.00 X 350 M.M. | 2 Kg. x 5 Pkt. = 10 |
| 5.00 X 350 M.M. | 2 Kg. x 5 Pkt. = 10 |