

# GRIBINOX 309LMo

## IDENTIFICATION

Gribinox 309LMo E 309LMo-15

## CLASSIFICATION

AWS/SFA 5.4 : E309LMo-15,  
BS 2926-1984 23.12.2.LB, DIN 8556-86 E23.12. LB

## DESCRIPTION

A basic coated all position 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.

## WELD METAL ANALYSIS (RANGE) %

| C         | Mn        | Si          | Cr      | Ni     | Cu       | Mo        | S         | P        |
|-----------|-----------|-------------|---------|--------|----------|-----------|-----------|----------|
| 0.040 max | 0.5 - 2.5 | 0.30 - 0.70 | 22 - 25 | Dec-14 | 0.75 max | 2.0 - 3.0 | 0.025 max | 0.03 max |

## MECHANICAL PROPERTIES (RANGE)

| UTS (MPa) | EL (%)<br>(L=4D) | CVN Impact Value |        |
|-----------|------------------|------------------|--------|
|           |                  | Temp             | Joules |
| 550 min   | 30 min           | 0°C              | 47 min |

## TYPICAL APPLICATIONS

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.

**SCALING TEMPERATURE** : 1000°C in air.

**MICROSTRUCTURE** : Consists of austenite with 14 to 28FN

**ASME IX QUALIFICATION** : QW-432 F-NUMBER 5, QW-442 A-NUMBER 8

**REDRYING** : 250°C / 2 hrs., max 5 cycles, 10 hr. total.

**WELDING POSITION** :

**PACKING PARAMETERS**

| Size (mm)   | Length (mm) | AMPS AC / DC (+) | Packing / Box (kg) | Packing / Box (Pcs) |
|-------------|-------------|------------------|--------------------|---------------------|
| 2.5         | 350         | 50 - 75          | 2 x 5 = 10         | 94 x 5 = 470        |
| 3.15 / 3.20 | 350         | 80 - 120         | 2 x 5 = 10         | 60 x 5 = 300        |
| 4           | 350         | 100 - 160        | 2 x 5 = 10         | 38 x 5 = 190        |
| 5           | 350         | 130 - 210        | 2 x 5 = 10         | 24 x 5 = 120        |