

Cor-A-Rosta 309MoL

Stainless rutile cored wire

Classification

AWS A5.22-95 : E309LMoT0-1/-4
EN 12073-99 : T 23 12 2 L R C/M 3

General description

Gas shielded flux cored high CrNiMo alloyed wire electrode for downhand welding

High Corrosion resistant deposit

Specially developed for welding stainless steel to mild steel and buffer layers in cladding

max. plate thickness in butt welds ~ 12 mm

Suitable for repair welding in dissimilar joints and steels difficult to weld

Welding positions



Current type/Shielding gas

DC +
Ar+ (>5-25%) CO₂ (EN 439: M21)
100% CO₂ (EN 439: C1)
15-25 l/min

Approvals

| Shielding gas | BV | DNV | LR | TÜV |
|---------------|----|----------|--------|-----|
| M21 | | 309MoLMS | | + |
| C1 | UP | 309MoLMS | SS/CMn | + |

Chemical composition (w%) and Ferrite Number (FN), typical, all weld metal

| Shielding gas | C | Mn | Si | Cr | Ni | Mo | FN |
|---------------|------|-----|-----|------|------|-----|----|
| M21/C1 | 0.03 | 1.3 | 0.6 | 23.4 | 12.8 | 2.2 | 23 |

Mechanical properties, typical, all weld metal

| | Shielding gas | Condition | Yield strength (N/mm ²) | Tensile strength (N/mm ²) | Elongation (%) | Impact ISO-V(J) -20°C |
|----------------|-----------------------------|-----------|-------------------------------------|---------------------------------------|--------------------|-----------------------|
| Required: | AWS A5.22-95 EN 12073-99 | | not required min. 350 | min. 520 min. 550 | min. 25 min. 25 | |
| Typical values | M21/C1 | AW | 545 | 695 | 29 | 40 |

Packaging and available sizes

| Unit | Net weight (kg) | Size (mm) |
|--------------------|-----------------|-----------|
| Plastic spool S300 | 12.5 | X X |

Cor-A-Rosta 309MoL: rev. EN 15

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Materials to be welded

| EN 10088-11-2 | EN 102 13-4 | W.Nr. | ASTM/ACI A240/A312/A351 | UNS | |
|---------------------------|-------------|--------|----------------------------|------------------|--------|
| X2 CrNiMo 17-12-2 | | 1.4404 | (TP)316L CF-3M | S31603 J92800 | |
| X2 CrNiMo 18-14-3 | | 1.4435 | (TP)316L | S31603 | |
| X2 CrNiMoN 17-11-2 | | 1.4406 | (TP)316LN | S31653 | |
| X2 CrNiMoN 17-13-3 | | 1.4429 | | | |
| X4 CrNiMo 17-13-3 | | 1.4436 | | | |
| X6 CrNiMoTi 17-12-2 | | 1.4571 | 316Ti | S31635 | |
| X10 CrNiMoTi 17-3 | | 1.4573 | 316Ti | S31635 | |
| X6 CrNiMoNb 17-12-21.4580 | | 316Cb | | | S31640 |

- Welding dissimilar metals: mild steel or low alloyed steel to stainless CrNi or CrNiMo-steel up to max. thickness of 12 mm.

- Build-up welding on mild or low alloyed steel

Welding parameters, optimum fill passes in shielding gas M21/C1

| Welding position | PA/1G | PB/2F | PC/2G |
|------------------|-------------|---------|---------|
| Diameter (mm) | Current (A) | | |
| 1.2 | 100-250 | 100-250 | 100-200 |

Remarks/ Application advice

Use for positional welding Cor-A-Rosta P309MoL