# INOX 316L

Electrodes MMA [SMAW]

Stainless and high alloyed steels

| CLASSIFICATION: | APPROVALS: | APPLICATION: |
|---|---|---|
| EN ISO 3581-A : E 19 12 3 LR 12<br>DIN 8556 : E 19123L R 12<br>AWS A-5.4 : E 316L-16<br>W.Nr. : 1.4430 | UDT | Power generation industry<br>Constructions & Engineering<br>Metallurgy (Steelworks)<br>Mining<br>Petrochemical and chemical industry<br>Agriculture |

- Electrode for direct or alternating current welding of austenitic acid-resistant steels with the addition of Mo, with low carbon content, as well as stabilized Nb and Ti, if the working temperature does not exceed 400°C.
- The weld is characterized by good resistance to general and intergranular corrosion in more aggressive environments, e.g. hot acid with reduced concentration.
- Good resistance to chloride pitting corrosion.
- Especially recommended for the food industry.

## Application

Food industry, pulp and paper equipment (boilers, evaporators), heat exchangers, dyeing equipment, film processing equipment, pipelines, offshore external construction materials, equipment for marine use, chemicals, dyes, paper, oxalic acid, fertilizer, boat equipment, heat exchangers, laboratory tables and equipment, brewery equipment, dairy and pharmaceutical equipment, oil refining equipment, textile industry equipment, ozone generators, wastewater filters, exhaust manifolds, furnace parts, valve and pump parts.

## Base material

| PN | EN 10088-1/2 | W.Nr. | AISI/ASTM |
|---|---|---|---|
| 0H17N12M2T | X5 CrNiMo 17 12 2 | 1.4401 | 316 |
| 00H17M14M2 | X2 CrNiMo 17 13 2 | 1.4404 | 316L |
| | X2 CrNiMo 18 14 3 | 1.4435 | 316L |
| H17N14M2 | X5 CrNiMo 17 13 3 | 1.4436 | 316 |
| | X6 CrNiMoNb 17 12 2 | 1.4580 | 316Cb |
| | X10 CrNiMoTi 18 12 | 1.4573 | 316Ti |
| | X10 CrNiMoNb 18 12 | 1.4583 | 318 |
| | G-X 6CrniMo18 10 | 1.4408 | CF-8M |
| | G-X 10CrniMo18 9 | 1.4410 | |
| H17N13M2T, H18N10MT | X6 CrNiMoTi17 12 2 | 1.4571 | 316Ti |
| | X5 CrNiMo17 13 | 1.4449 | 318 |
| | G-X5 CrNiMoNb18 10 | 1.4581 | 318 |

## Typical chemical composition %

| C | Si | Mn | Cr | Ni | Mo |
|---|---|---|---|---|---|
| <0,03 | 0,80 | 0,70 | 18,50 | 11,50 | 2,70 |

## Typical mechanical properties

| | |
|---|---|
| **Yield strength Re [N/mm2]** | >320 |
| **Tensile strength Rm [N/mm2]** | >510 |
| **Elongation A5 [%]** | >25 |

| | |
|---|---|
| **Impact energy Kv [J]** | >55J (20°C) / >32 J (-120°C) / |
| **Coating type** | rutile |
| **Ferrite content** | FN = app. 8 |
| **Welding current** |  |
| **Welding positions** |  |
| **Redrying** | 300 - 350°C / 2 h |
| **Additional description** | Austenitic microstructure with ferrite content at the level of 3-10 FN. Interpass temperature about 150°C. |

**Welding parameters and packing**

| ø | Length [mm] | Welding current [A] | Weight of packet [kg] | Weight of carton [kg] | Pcs/1 kg |
|---|---|---|---|---|---|
| 2,0 | 300 / | 30-60 | 1,3 | 7,8 | 82 |
| 2,5 | 300 / | 60-85 | 1,4 | 8,4 | 53 |
| 3,2 | 350 / | 70-125 | 1,7 | 10,2 | 27 |
| 4,0 | 350 / | 110-165 | 1,7 | 10,2 | 18 |
| 5,0 | 350 / | 165-230 | 1,7 | 10,2 | 12 |

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