

## 316LMn TIG

**CATEGORY** GMAW-GTAW Solid wires

**TYPE** Solid rod for welding fully austenitic CrNiMnMo stainless steels and low temperature steels not susceptible for hot cracking

**APPLICATIONS** Stainless; resistant to intercrystalline corrosion and wet corrosion up to 350 °C (662 °F). Corrosion-resistant similar to low-carbon CrNiMo(Mn,N) steels/cast steel grades. Seawater resistant, good resistance to nitric acid, selective attack max. 200 µm. Non magnetic (permeability in field of 8000 A/m 1.01 max.). Particularly suited for corrosion conditions in urea synthesis plants for welding work on steel X 2 CrNiMo 18 12 and the over-lay side of Type 1.4455 weld claddings. Well suited for joining and surfacing applications with matching and similar austenitic CrNi(N) and CrNiMo(Mn,N) steels/cast steel grades

**CLASSIFICATION**

|            |                               |
|------------|-------------------------------|
| AWS        | AWS A5.9: ER316LMn            |
| EN ISO     | ISO 14343-A: W 20 16 3 Mn N L |
| DIN: W.Nr. | 1.4455                        |

**SUITABLE FOR** 1.4311, 1.4406, 1.4429, 1.4439, 1.3951, 1.3952, 1.3953, 1.3965, 1.6902, 1.6903, 1.6905, 1.5637, 1.5680 X2CrNiMoN17-13-3, X5CrNiN 19-9, X1CrNiMoTi 18-13-2, X8Ni9, 10CrNiTi18-10 and cryogenic 3,5-5% Ni-steels

**APPROVALS** CE approved

**WELDING POSITIONS:**



**WELD METAL ANALYSIS %**

| C          | Mn      | Si      | Cr      | Ni      | Mo  | N         |
|------------|---------|---------|---------|---------|-----|-----------|
| 0.015-0.03 | 7.0-7.5 | 0.4-0.5 | 20-20.5 | 15.5-16 | 3.0 | 0.15-0.18 |

**MECHANICAL PROPERTIES (TYPICAL)**

| Heat treatment | R <sub>P0,2</sub><br>(N/mm <sup>2</sup> ) | R <sub>m</sub><br>(N/mm <sup>2</sup> ) | A <sub>5</sub><br>(%) | Impact energy (J) ISO-V |       |        | Hardness<br>HRc / HV |
|----------------|---|--|-----------------------|-------------------------|-------|--------|----------------------|
|                |   |  |                       | +20C                    | -40°C | -196°C |                      |
| AW             | >430                                      | >650                                   | >35                   |                         |       | 75     |                      |

AW: as welded

**WELDING PARAMETERS / PACKING**

| D (mm) | Welding Parameters |                 | Packing |           |
|--------|--------------------|-----------------|---------|-----------|
|        | Voltage (V)        | Current (A) DC- | kg      | kg / pack |
| 2.4    |                    | 110-180         | 5       | 25        |

**REDRYING TEMPERATURE** not required

**GAS ACC. EN ISO 14175:** I1