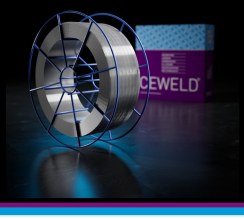



# CEWELD 316LMn

certilas® THE FILLER METAL SPECIALIST

**TYPE**

Solid welding wire for welding fully austenitic CrNiMnMo stainless steels and low temperature steels.( Type 19 12 3Mn, 1.4455)

**APPLICATIONS**

CEWELD® 316LMn is designed for joining and surfacing of similar and matching austenitic CrNi(N) and CrNiMo(Mn,N) steels / cast steel grades with 16 - 21% Cr, 6 - 13% Ni, and 3% Mo.
It is particularly suitable for corrosion conditions in urea synthesis plants.

**PROPERTIES**

CEWELD® 316LMn offers excellent resistance to intergranular and wet corrosion at temperatures up to 350°C. Its corrosion resistance is comparable to low-carbon CrNiMo(Mn,N) steels and cast steel grades. The material is seawater resistant and exhibits good resistance to nitric acid, with a maximum selective attack of 200 µm. The weld metal is non-magnetic (Permeability in a field of 8000 A/m is 1.01 max.).
To ensure the integrity of the weld and material properties, the following parameters must be observed:

- Heat Input: Maximum 1.5 kJ/mm.
- Interpass Temperature: Maximum 100°C.
- Preheating: For surfacing (cladding), preheat to 150°C in accordance with the base material requirements.
- Stress Relieving: Can be performed at 510°C for up to 20 hours.
- Tempering: Before the final layer, tempering can be done at a maximum of 530°C.

**CLASSIFICATION**

| | |
|---|---|
| AWS | A 5.9: ER316LMn |
| EN ISO | 14343-A: G 20 16 3 Mn N L |
| F-nr | 6 |
| FM | 5 |
| W.Nr. | 1.4455 |
| W.Nr. | ~1.3954 |

**SUITABLE FOR**

**ISO 15608: 8.1 Austenitic ≤ 19 % Cr**
1.3941, 1.3945, 1.3948, 1.3951, 1.3952, 1.3953, 1.3955, 1.3964, 1.3965, 1.4315, 1.4401, 1.4404, 1.4411, 1.4429, 1.4435, 1.4438, 1.4439, 1.4449, 1.4561, 1.4571, 1.6902, 1.6903, 1.6905, 1.5662, X5 CrNiMo 17-12-2, X2CrNiMoN 22-15, X2CrNiMoN 18-14-3, X2CrNiMo 18-15, X8 CrMnNi 18-8, X2 CrNiMo 17-13-2, X2 CrNiMo 18-14-3, X2CrNiMoN 17-13-3, X6 CrNiMoTi 17-12-2, X2 CrNiMoN 17-13-5, X3 CrNiMo 18-12-3, X2 CrNiMo 18-15-4, X2 CrNiN 18-10, GX6 CrNi 18-10, GX5 CrNiNb 18-10, X5CrNiN19-9, X1CrNiMoTi18-13-2, 10CrNiTi18-10, (G)X4CrNi18-3, X2CrNiN18-13, X4CrNiMnMoN19-13–8,
UNS S31600, S31603, S31635, S31700, S31703, S30453
AISI 316, 316L, 316Ti, 317, 317L, 304LN
3,5 – 5% Ni-Steel

**APPROVALS**

CE

**WELDING POSITIONS**


**TYPICAL CHEMICAL ANALYSIS OF THE FILLER METAL (%)**

| C | Si | Mn | Cr | Ni | Mo | N |
|---|---|---|---|---|---|---|
| 0.015 | 0.5 | 7 | 20 | 17 | 3 | 0.01 |

**ALL WELD MECHANICAL PROPERTIES**

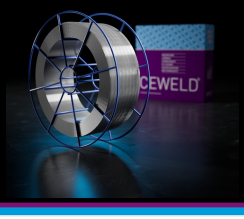
| Heat Treatment | $R_{P0,2}$ MPa | Rm MPa | A5 (%) | Impact Energy (J) ISO-V -196°C |
|---|---|---|---|---|
| As Welded / | 430 | 650 | 35 | 50 |

**REDRYING TEMPERATURE**

Not required

**GAS ACCORDING EN 14175**

M11, M13, M12




# CEWELD 316LMn

316LMN 1,2MM

| Type | KG/unit | EANCode |
|---|---|---|
| BS-300 | 15 | 8720663424587 |