

317L/SNR

| For welding steels such as Outokumpu | EN | ASTM | BS | NF | SS |
|--------------------------------------|--------|--------|--------|--------------------|------|
| 4438 | 1.4438 | 317L | 317S12 | Z3 CND 19-15-04 | 2367 |
| 4439 | 1.4439 | 317LMN | – | Z3 CND 18-14-05 Az | – |

Standard designations

EN ISO 14343 S 19 13 4 L
AWS A5.9 ER317L

Characteristics and welding directions

AVESTA 317L/SNR is designed for welding type 18 Cr 14 Ni 3 Mo austenitic stainless steels and similar. The enhanced content of chromium, nickel and molybdenum compared to 316L gives even better corrosion properties, primarily in acid chloride containing environments.

Welding data

| Diameter, mm | Current, A | Voltage, V |
|--------------|------------|------------|
| 2.40 | 300 – 400 | 29 – 33 |

Welding flux: AVESTA Flux 801, 805 or 807.

Corrosion resistance: Better resistance to general, pitting and intercrystalline corrosion than ASTM 316L in chloride containing environments. Intended for severe service conditions, e.g. in dilute hot acids.

Approvals

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Chemical composition, wire (typical values, %)

| C | Si | Mn | Cr | Ni | Mo |
|---------|--------------|------------------|------|------|-----|
| 0.02 | 0.40 | 1.7 | 19.0 | 13.5 | 3.5 |
| Ferrite | 9 FN 9 FN | DeLong WRC-92 | | | |

Chemical composition, all weld metal (typical values in combination with flux, %)

| Flux | C | Si | Mn | Cr | Ni | FN ¹⁾ |
|------|------|-----|-----|------|------|------------------|
| 801 | 0.02 | 0.9 | 1.0 | 20.0 | 9.5 | 13 |
| 805 | 0.02 | 0.6 | 1.2 | 20.5 | 9.5 | 14 |
| 807 | 0.02 | 0.6 | 1.2 | 19.5 | 10.0 | 8 |

¹⁾ According to DeLong.

Mechanical properties

Typical values (IIW) in combination with flux

| | 801 | 805 |
|---------------------------|-----------------------|-----------------------|
| Yield strength $R_{p0,2}$ | 440 N/mm ² | 410 N/mm ² |
| Tensile strength R_m | 590 N/mm ² | 580 N/mm ² |
| Elongation A_5 | 37 % | 36 % |
| Impact strength KV | | |
| +20°C | 65 J | 80 J |
| -196°C | – | 35 J |

Interpass temperature: Max. 150°C.

Heat input: Max. 1.5 kJ/mm.

Heat treatment: Generally none (in special cases quench annealing at 1050°C).

Structure: Austenite with 5 – 10% ferrite.

Scaling temperature: Approx. 850°C (air).