

| Classification | | | |
|----------------|----------------|-----------|--------------|
| Wire: | | | Flux: |
| EN ISO 14343-A | EN ISO 14343-B | AWS A5.23 | EN ISO 14174 |
| S 19 9 L | - | ER308L | - |

Characteristics and typical fields of application

Avesta 308L/MVR is designed for welding austenitic steel type 19 Cr 10 Ni or similar. The wire can also be used for welding titanium and niobium stabilized steels such as ASTM 321 and ASTM 347 in cases where the construction will be used at temperatures not exceeding 400 °C. For higher temperatures a niobium stabilized consumable such as Avesta 347/MVNB is required.

Structure: Austenite with 5 – 10 % ferrite.

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

Corrosion resistance:

Corresponding to ASTM 304, i.e. fairly good under severe conditions such as oxidizing and cold dilute reducing acids.

Base materials

| Outokumpu | EN | ASTM | BS | NF | SS |
|-----------|--------|-------|--------|----------------|------|
| 4301 | 1.4301 | 304 | 304S31 | Z7 CN 18-09 | 2333 |
| 4307 | 1.4307 | 304L | 304S11 | Z3 CN 18-10 | 2352 |
| 4311 | 1.4311 | 304LN | 304S61 | Z3 CN 18-10 Az | 2371 |
| 4541 | 1.4541 | 321 | 321S31 | Z6 CNT 18-10 | 2337 |

Typical analysis of the solid wire and all-weld-metal (wt.-%)

| | C | Si | Mn | Cr | Ni | Ferrite |
|----------|------|-----|-----|------|------|----------------|
| Wire | 0.02 | 0.4 | 1.7 | 20.0 | 10.0 | 10 FN (WRC-92) |
| Flux 801 | 0.02 | 0.9 | 1.0 | 20.0 | 9.5 | 13 FN (DeLong) |
| Flux 805 | 0.02 | 0.6 | 1.2 | 20.5 | 9.5 | 14 FN (DeLong) |

Mechanical properties of all-weld-metal

| Flux | Yield strength | Tensile strength | Elongation ($L_0=5d_0$) | Impact work ISO-V KV J | | Hardness |
|----------|----------------|------------------|------------------------------|---------------------------|---------|----------|
| | $R_{p0.2}$ | R_m | | +20 °C | -196 °C | |
| | MPa | MPa | % | | | Brinell |
| Flux 801 | 440 | 590 | 37 | 65 | 30 | 200 |
| Flux 805 | 410 | 580 | 36 | 85 | 35 | |

Operating data

| | | | |
|---|-------------------------------------|--|---------------|
|  | Polarity: DC (+) / DC (-) | Re-drying: 300 – 350 °C / min. 2 h | ø (mm) |
| | | | 1.6 |
| | | | 2.4 |
| | | | 3.2 |
| | | | 4.0 |

Heat treatment: Generally none (in special cases quench annealing at 1050 °C). Interpass temperature: Max. 150 °C. Heat input: Max. 2.0 kJ/mm.

Approvals

In combination with flux

| | | | |
|-----|----|-----|-----|
| 801 | CE | DNV | TÜV |
| 805 | CE | TÜV | |