

2205

| For welding steels such as Outokumpu | EN | ASTM | BS | NF | SS |
|---|--------|--------|--------|-----------------|------|
| 2205 | 1.4462 | S32205 | 318S13 | Z3 CND 22-05 Az | 2377 |

Standard designations

EN ISO 14343 S 22 9 3 N L

AWS A5.9 ER2209

Characteristics and welding directions

AVESTA 2205 is primarily designed for welding the duplex grade Outokumpu 2205 and similar steels.

AVESTA 2205 provides a ferritic-austenitic weldment that combines many of the good properties of both ferritic and austenitic stainless steels.

Welding data

| Diameter, mm | Current, A | Voltage, V |
|--------------|------------|------------|
| 2.40 | 300 – 500 | 28 – 33 |
| 3.20 | 400 – 600 | 29 – 34 |
| 4.00 | 425 – 575 | 30 – 34 |

Welding flux: AVESTA Flux 805.

Corrosion resistance: Very good resistance to pitting and stress corrosion cracking in chloride containing environments.

Approvals

In combination with flux

| | | | |
|-----|-------|-------|--------|
| 805 | • CE | • GL | • RINA |
| | • DNV | • LR | • TÜV |
| 807 | • CE | • TÜV | |

Chemical composition, wire (typical values, %)

| C | Si | Mn | Cr | Ni | Mo | N |
|------|------|-----|------|-----|-----|------|
| 0.02 | 0.50 | 1.6 | 23.0 | 8.5 | 3.1 | 0.17 |

Ferrite 50 FN WRC-92

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

| Flux | C | Si | Mn | Cr | Ni | Mo | FN ¹⁾ |
|------|------|-----|-----|------|-----|-----|------------------|
| 805 | 0.02 | 0.7 | 1.0 | 23.5 | 8.0 | 3.1 | 50 |

¹⁾ According to WRC-92.

Mechanical properties

Typical values (IIW) in combination
with flux 805

| | |
|---------------------------|-----------------------|
| Yield strength $R_{p0,2}$ | 590 N/mm ² |
| Tensile strength R_m | 800 N/mm ² |
| Elongation A_5 | 29 % |
| Impact strength KV | |
| +20°C | 100 J |
| -40°C | 70 J |

Interpass temperature: Max. 150°C.

Heat input: 0.5 – 2.5 kJ/mm.

Heat treatment: Generally none (in special cases quench annealing at 1100 – 1150°C).

Structure: Austenite with 45 – 55% ferrite.

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