



# FCW-2D 308L/MVR

For welding steels such as 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

### Standard designations

EN ISO 17633 T 19 9 L R M/C 3

AWS A5.22 E308LT0-4/-1

### Characteristics and welding directions

AVESTA FCW-2D 308L/MVR is designed for welding austenitic stainless steel type 19 Cr 10 Ni or similar. It is also suitable for welding titanium and niobium stabilised steels such as ASTM 321 and ASTM 347 in cases where the construction will be operating at temperatures below 400°C. For higher temperatures a niobium stabilised consumable such as AVESTA FCW-2D 347/MVNB is required.

AVESTA FCW-2D 308L/MVR is designed for welding in the flat and horizontal-vertical positions. Diam. 0.9 mm can be welded in all positions.

### Welding data

Diameter mm	Welding position	Current A	Voltage V
0.90	Flat, horizontal	100 – 160	21 – 28
	Vertical-up	80 – 130	22 – 26
1.20	Flat, horizontal	125 – 280	20 – 34
1.60	Flat, horizontal	200 – 350	25 – 35

### Shielding gas

Ar + 15 – 25% CO<sub>2</sub> offers the best weldability, but 100% CO<sub>2</sub> can also be used (voltage should be increased by 2V).

Gas flow rate 20 – 25 l/min.

### Chemical composition, all weld metal (typical values, %)

C	Si	Mn	Cr	Ni
0.03	0.7	1.5	19.8	10.2
Ferrite	8 FN 7 FN	DeLong WRC-92		

Mechanical properties	Typical values (IIW)	Min. values EN ISO 17633
Yield strength R <sub>p0,2</sub>	380 N/mm <sup>2</sup>	320 N/mm <sup>2</sup>
Tensile strength R <sub>m</sub>	560 N/mm <sup>2</sup>	510 N/mm <sup>2</sup>
Elongation A <sub>5</sub>	40 %	30 %
Impact strength KV +20°C	60 J	
-196°C	35 J	
Hardness	200 Brinell	

**Interpass temperature:** Max. 150°C.

**Heat input:** Max. 2.0 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).

**Corrosion resistance:** Corresponding to ASTM 304, i.e. fairly good under severe conditions such as in oxidising and cold dilute reducing acids.

### Approvals

- CE
- CWB
- DB
- TÜV