



316L/SKR-4D

For welding steels such as Outokumpu	EN	ASTM	BS	NF	SS
4436	1.4436	316	316S33	Z7 CND 18-12-03	2343
4432	1.4432	316L	316S13	Z3 CND 17-12-03	2353
4429	1.4429	S31653	316S63	Z3 CND 17-12 Az	2375
4571	1.4571	316Ti	320S31	Z6 CNDT 17-12	2350

Standard designations

EN 1600 E 19 12 3 L R
AWS A5.4 E316L-17

Characteristics

AVESTA 316L/SKR-4D is a thin-coated, rutile-acid type electrode specially developed for the welding of thin walled pipelines and sheets, mainly in the chemical process and papermaking industries. It is highly suitable for welding in restrained positions and under difficult site conditions, where it offers considerably higher productivity than manual TIG-welding. It is also recommended for root runs and multi-pass welds in general fabrication of ASTM 316-type stainless steels in all material thicknesses.

Pipe welding can be performed in several different ways. One possibility is to start welding in the overhead position (1), followed by vertical-down on both sides from the 12 o'clock position (2 and 3). Another possibility is to start at the 7 o'clock position and weld vertical-up to the 11 o'clock position on both sides. This requires an inverter power source with a remote control.

To bridge large root gaps DC- is often preferred.

Welding data

DC+ or AC	Diam. mm	Current, A
	1.6	15 – 40
	2.0	25 – 55
	2.5	30 – 85
	3.25	45 – 110

Typical analysis % (All weld metal)

C	Si	Mn	Cr	Ni	Mo
0.02	0.8	0.7	18.0	12.0	2.6

Ferrite 8 FN DeLong

Mechanical properties

	Typical values (IIW)	Min. values EN 1600
Yield strength $R_{p0.2}$	480 N/mm ²	320 N/mm ²
Tensile strength R_m	590 N/mm ²	510 N/mm ²
Elongation A_5	34 %	25 %
Impact strength KV		
+20°C	60 J	
-20°C	55 J	
Hardness approx.	210 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 6 – 12% ferrite.

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

Corrosion resistance: Excellent resistance to general, pitting and intercrystalline corrosion in chlorine containing environments. Intended for severe service conditions, e.g. in dilute hot acids.

Approvals

- CE
- TÜV

Welding positions

