Avesta FCW 316L/SKR Cryo

GMAW flux cored wire, high alloyed, special application

Classification

EN ISO 17633-A	EN ISO 17633-B	AWS A5.22
T S 316L F B 1	-	E316LT1-4/-1

Characteristics and typical fields of application

Avesta FCW 316L/SKR Cryo is designed for welding 1.4436/ASTM 316 type stainless steels, primarily for use in low temperature applications. The carefully controlled chemical composition gives a weld metal with a ferrite content in the range of 3 – 6 FN (WRC-92) and very good toughness down to -196°C as specified for LNG applications.

It also suitable for welding steels that are stabilised with titanium or niobium, such as 1.4571/ASTM 316Ti for service temperatures not exceeding 400°C.

Avesta FCW 316L/SKR Cryo should be welded using direct current positive polarity (DC+) with a recommended wire stick-out of 15 – 20 mm.

Corrosion resistance:

Excellent resistance to general, pitting and intergranular corrosion in chloride containing environments. Intended for severe service conditions, e.g. in dilute hot acids.

Base Materials

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

Typical analysis of all-weld metal (wt.-%)

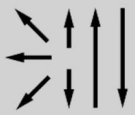
	C	Si	Mn	Cr	Ni	Mo
wt-%	0.03	0.7	1.4	18.1	12.5	2.1

Mechanical properties of all-weld metal

Heat-treat-ment	Yield strength R_e N/mm²	Tensile strength R_m N/mm²	Elongation (L_0=5d_0)	Impact work ISO-V KV J		Hardness
	MPa	MPa	%	+20 °C	-196°C	HB
u	390	550	40	75	40	210

u untreated, as-welded – shielding gas Argon + 18 % CO_2

Operating data



Polarity	shielding gases:	re-drying if necessary:	amps A	voltage V	ø (mm)
DC (+)	Ar + 15 – 25% CO_2 100 % CO_2	150°C / 24 hrs	150 – 240	24 – 32	1.2

Ar + 15 – 25% CO_2 offers the best weldability, but 100% CO_2 can be also used (voltage should be increased by 2V). Gas flow rate 20 – 25 l/min.

Approvals

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