Avesta FCW 308L/MVR Cryo

GMAW flux cored wire, high alloyed, special application

Classification

EN ISO 17633-A	EN ISO 17633-B	AWS A5.22
T 19 9 L P M/C 1	-	E308LT1-4/-1

Characteristics and typical fields of application

Avesta FCW 308L/MVR Cryo is designed for welding 1.4301/ASTM 304 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 – 8 FN (WRC-92) and very good toughness down to -196°C as specified for LNG applications.

Avesta FCW 308L/MVR Cryo should be welded using direct current positive polarity (DC+) with a recommended wire stick-out of 15 – 20 mm.

Corrosion resistance:

Corresponding to 1.4301/ASTM 304, i.e. very good under fairly severe conditions, e.g. in oxidising acids and cold or 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 all-weld metal (wt.-%)

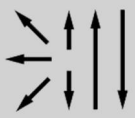
	C	Si	Mn	Cr	Ni
wt-%	0.020	0.6	1.2	19.0	10.3

Mechanical properties of all-weld metal

Heat-treat-ment	Yield strength R_e N/mm^2	Tensile strength R_m N/mm^2	Elongation (L_0=5d_0)	Impact work ISO-V KV J		Hardness
	MPa	MPa	%	+20 °C	-196°C	HB
u	390	550	40	80	45	200

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	125 – 280	20 – 34	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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