Revicod® 81T1-Ni1M Extra

Low temperature rutile cored wire

Classification

AWS A5.29/A5.29M	:E81T1-Ni1M- JH4
EN 758	:T 50 5 1 Ni P M 2 H5

General description

All position gas shielded 1% Ni flux cored wire, offshore and similar applications
Specific design for stress relieved applications, guaranteed impact properties after PWHT
Superior weldability, low spatter, good bead appearance
Outstanding operators appeal
Exceptional mechanical properties (CVN >47J at -40°C)
Very low hydrogen H_{DM} <5 ml/100g
Superior product consistency with optimal alloy control
Very good wire feeding

Welding positions

ISO/ASME	PA/1G	PB/2F	PC/2G	PF/3G up	PG/3G down	PE/4G

Current type / Shielding gases

DC +
Ar+(>5-25%) CO_2 (EN 439: M21)
15-25 l/min

Approvals

Shielding gases	BV	DNV	GL	LR
M21	4YSDH5	IVYMSH5	4YH5S	4YSH5

Typical chemical composition of all weld metal, (w%)

Shielding gases	C	Mn	Si	P	S	Ni	H_{DM} ml/100g
M21	0.06	1.4	0.3	0.013	0.010	0.95	3

Mechanical properties of all weld metal

		Shielding gas	Condition	Yield strength (N/mm^2)	Tensile strength (N/mm^2)	Elongation (%)	Impact (ISO), J	
							-40°C	-50°C
Required	AWS A5.29			min.470	550-690	min. 19	min. 27	
	EN 758			min.500	560-720	min. 18		min.47
Typical values		M21	AW	570	620	24	120	100
after welding		M21	SR	550	600	24	120	100

SR 1h/600°C, 3G up –V45°

Packaging, available sizes and identification

Unit type	Net weight/unit (kg)	Diameter (mm) 1.2	1.6
Plastic spool S200	4.5	X	
Wire reel B300	15	X	X
Wire reel B435	25	X	

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Revicod®81T1-Ni1M Extra: rev. EN 20

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Materials to be welded

Steel	Code	Type
General structural steel	EN 10025	S185, S235, S275, S355
Ship plates	ASTM 131	Grade A, B, D, AH32 to EH40
Cast steel	EN 10213-2	G P 240R
Pipe material	EN 10208-1	L210, L240, L290, L360
	EN 10208-2	L240NB, L290NB, L360NB, L360QB, L240MB L290MB, L360MB, L415MB, L415NB
	API 5LX	X42, X46, X52, X60
	EN 10216-1/	P235T1, P235T2, P275T1
	EN 10217-1	P275T2, P355N
Boiler & pressure vessel steel	EN 10028-2	P235GH, P265GH, P295GH, P355GH
Fine grained steel	EN 10113-2	S275, S275, S355, S420
	EN 10113-3	S275, S355, S420, S460

Calculation data

Diameter (mm)	Electrode Stick-out (mm)	Wire feed speed (cm/min)	Current (A)	Arc Voltage (B)	Deposition Rate (kg/h)	kg Wire/kg weld metal
1.2	20	445	130	20-22	1.6	1.20
		700	180	23-25	2.5	1.20
		950	220	25-27	3.4	1.20
		1270	265	27-29	4.5	1.20
		1590	305	30-32	5.9	1.20
1.6	20	320	170	21-23	1.9	1.20
		510	235	22-24	3.1	1.20
		635	275	24-25	3.9	1.20
		760	310	25-27	4.7	1.20
		890	350	27-29	5.6	1.20
		1015	385	28-30	6.4	1.20
		1080	400	30-31	6.8	1.20

Welding parameters, optimum fill, Shielding gases Ar+ (>5-25)%CO_2

Diameter (mm)	Current / Voltage	Welding position				
		PA/1G	PB/2F	PC/2G	PF/3Gup	PE/4G
1.2	(A)	230-280	230-280	200-240	200-240	160-220
	(V)	26-32	26-32	25-32	25-28	23-28
1.6	(A)	250-350	250-350	230-280	220-260	170-240
	(V)	24-32	24-32	24-32	24-28	22-28