

Innershield® NR®-232

Self-shielded cored wire

Classification

AWS A5.20/A5.20M : E71T-8

General description

Self shielded: easiest equipment arrangement
Deposit rate up to 3 kg/h, out of position
Excellent low temperature impact toughness
Ideal for fillet welding and filling
For single and multi-pass welds
Size diam. 1.7mm suitable for contaminated or primed plate

Welding positions



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

Current type

DC -

Approvals

ABS	BV	DNV	LR	RINA	TÜV	NKK
3SA,3YSAH15	SA3YMH	IIYMSH15	3S,3YSH15	3YS	+	KSW53NH10

Chemical composition (w%). typical. all weld metal

C	Mn	Si	P	S	Al
0.18	0.65	0.27	0.006	0.004	0.55

Mechanical properties, all weld metal

	Condition	Yield strength (N/mm ²)	Tensile strength (N/mm ²)	Elongation %	Impact ISO-V(J)	
					-20°C	-29°C
Required:	AWS A5.20	min. 400	480	22		27
Typical values	AW	490	590	26	65	35

Packaging and available sizes

Unit type	Net weight/unit (kg)	Diameter (mm)		
		1.7	1.8	2.0
Coils 14C	6.12	X	X	X
Coils 50C	22.68	X	X	X

Innershield® NR®-232: rev. EN 20

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Suggestions for use

Designed for the semi-automatic welding of 5mm and thicker steel

Recommended for single and multi-pass welds

Size diam. 1.7mm, is recommended for welds where it is necessary to produce wider passes (weave technique) and for welding plate with contaminations such as oil, rust, paint or primer

Size diam. 1.8mm is recommended to obtain the fastest travel speed on single pass fillet weld

Size diam. 2.0mm is recommended for overhead position

Materials to be welded

Steel	Code	Type
General structural steel	EN 10025	S185, S235, S275, S355
Ship plates	ASTM A131	Grade A, B, D, AH32 to DH36.
Cast steel	EN 10213-2	GP240R
Pipe material	EN 10208-1	L210, L240, L290, L360
	EN 10208-2	L240, L290, L360, L415
	API 5LX	X42, X46, X52, X60
	EN 10216-1/ EN 10217-1	P235T1, P235T2, P275T1 P275T2, P355N
Boiler & pressure Vessel steel	EN 10028-2	P235GH, P265GH, P295GH, P355GH
Fine grained steel	EN 10113-2	S275, S355, S420
	EN 10113-3	S275, S355, S420

Calculation data at normal setting

Diameter (mm)	Electrical Stick-out (mm)	Wire feed speed cm/min	Current (approx. A)	Arc Voltage (V)	Deposition Rate (kg/h)	kg Wire/kg Weldmetal
1.7	12-25	280	170	19	1.7	1.33
		430	250	21	2.7	1.33
		810	400	26	5.1	1.33
1.8	12-25	200	130	17	1.5	1.22
		430	250	21	2.9	1.22
		730	350	24	5.0	1.22
2.0	12-25	150	130	16	1.3	1.22
		330	250	21	2.8	1.22
		550	350	25	4.6	1.22

Welding parameters, optimum fill passes

Diameter (mm)	Wire feed speed/ Current/ Voltage	Welding position				
		PA/1G	PB/2F	PC/2G	PF/3G up	PE/4G
1.7	(cm/min.)	635	495		380	380
	(A)	310	275		225	225
	(V)	23	23		19.5	19.5
1.8	(cm/min.)	635	510	430	390	430
	(A)	355	290	255	240	255
	(V)	11	21	21	20	21
2.0	(cm/min.)	460	380		330	380
	(A)	315	285		250	285
	(V)	23	22		21	22