

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



PA/1G



PB/2F



PC/2G



PF/3Gup



PE/4G

ISO/ASME

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, typical, 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	Diameter (mm)		
	1.7	1.8	2.0
6.12 kg coil 14C	X	X	X
22.68 kg coil 50C	X	X	X

Innershield® NR®-232: rev. EN 21

Liability: All information in this data sheet is based on the best available knowledge, is subject to change without notice and can only be considered as suitable for general guidance **Fumes:** Consult information on Welding Safety Sheet, available upon request

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Materials to be welded

Steel grades/Standard Type

General structural steel

EN 10025 part 2 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/ P235T1, P235T2, P275T1

EN 10217-1 P275T2, P355N

Boiler & pressure Vessel steel

EN 10028-2 P235GH, P265GH, P295GH, P355GH

Fine grained steel

EN 10025 part 3 S275, S355, S420

EN 10025 part 4 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)	Welding position	Welding position				
		PA/1G	PB/2F	PC/2G	PF/3G up	PE/4G
1.7	Wire feed speed (cm/min.)	635	495		380	380
	Current (A)	310	275		225	225
	Voltage (V)	23	23		19.5	19.5
1.8	Wire feed speed (cm/min.)	635	510	430	390	430
	Current (A)	355	290	255	240	255
	Voltage (V)	11	21	21	20	21
2.0	Wire feed speed (cm/min.)	460	380		330	380
	Current (A)	315	285		250	285
	Voltage (V)	23	22		21	22

Remarks/ Application advice

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