

# Innershield® NR®-233

## Self-shielded cored wire

### Classification

AWS A5.20-95 E71T-8

### General description

Self shielded: easiest equipment arrangement

Due to new production technology and formulation: welder friendly wire with wide range of parameter settings

Forgiving arc, with increased penetration gives better quality welds with great bead appearance

High deposition rate, even in out of position welding

Good impact properties

NR-233 has been developed to minimize gas marking, even after the electrode has been exposed to the atmosphere

### Welding positions



ISO/ASME PA/1G PB/2F PC/2G PF/3G up PE/4G PF/5G up

### Current type

DC -

### Approvals

### Chemical composition (w%), typical, all weld metal

C	Mn	Si	P	S	Al
0.16	0.65	0.21	0.010	0.003	0.60

### Mechanical properties, all weld metal

	Condition	Yield strength (N/mm <sup>2</sup> )	Tensile strength (N/mm <sup>2</sup> )	Elongation %	Impact ISO-V(J) -29°C
Required:	AWS A5.20-95	min. 400	480	22	27
Typical values	AW	440	570	26	40

### Packaging and available sizes

Unit type	Net weight/unit (kg)	Diameter (mm)	
		1.6	1.8
Plastic spool	5.7	X	
Plastic spool Foil Bag	11.3	X	X

Innershield® NR®-233: rev. EN 15

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## Suggestions for use

Vertical up fillet and groove welds  
 Overhead fillet and groove welds  
 Seismic structural steel erection  
 General structural steel erection  
 Ship and barge fabrication

## 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
	API 5LX	X42, X46, X52
	EN 10216-1/ EN 10217-1	P235T1, P235T2, P275T1 P275T2, P355N
	EN 10028-2	P235GH, P265GH, P295GH, P355GH
Boiler & pressure vessel steel	EN 10113-2	S275, S355
Fine grained steel	EN 10113-2	S275, S355
	EN 10113-3	S275, S355

## Calculation data at normal setting

Diameter (mm)	Electrical Stick-out (mm)	Wire feed speed inch/min	cm/min	Current (approx. A)	Arc Voltage (V)	Deposition Rate (kg/h)	kg Wire/ kg Weldmetal
1.6	13-32	150	380	220	17-19	1.9	1.26
		200	510	245	19-21	2.5	1.31
		250	640	270	21-23	3.0	1.35
		300	760	295	23-25	3.5	1.35
		350	890	315	25-27	4.3	1.31
1.8	19-25	100	250	185	17-18	1.6	1.25
		150	380	250	18-19	2.5	1.24
		200	510	295	20-21	3.2	1.25
		250	640	330	22-23	4.0	1.26
		300	760	355	23-24	4.8	1.26