

# Innershield® NR®-203 NiC

## Self-shielded cored wire

### Classification

AWS A5.29/A5.29M : E61T8-K6

### General description

Self shielded: easiest equipment arrangement

All position welding

Easy to weld in vertical up position

All passes

Good impact and CTOD toughness

### Welding positions



ISO/ASME PA/1G PB/2F PC/2G PF/3Gup PG/3Gdown PF/5Gup PG/5Gdown

### Current type

DC -

### Approvals

ABS	DNV	LR
3SA	IIIMSH15	3SH15

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

C	Mn	Si	P	S	Ni	Cr	Al	V	Mo
0.06	0.83	0.05	0.004	0.003	0.57	0.08	0.73	<0.1	<0.1

### Mechanical properties, typical, 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 A5.29	min. 340	410-550	22	27
Typical values	AW	400	490	29	95

### Packaging and available sizes

Unit type	Diameter (mm)
	2.0
6.35 kg coil 14C	X
22.68 kg coil 50C	X

Innershield® NR®-203 NiC: 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

API 5LX      X42, X46, X52

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

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## 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
2.0	19	125	145	16	1.10	1.32
		230	235	20	1.95	1.32
		280	275	21	2.40	1.32

## Welding parameters, optimum fill passes

Diameter (mm)	Welding position	Welding position				PE/4G
		PA/1G	PC/2G	PF/3G up PF/5G up	PG/5G down PG/5G down	
2.0	Wire feed speed (cm/min.)	280	230	200	200	200
	Current (A)	275	235	215	215	215
	Voltage (V)	21	20	19	18	19

## Remarks/ Application advice

For mild and higher strength steel not exceeding the yield strength range

Roundabout groove welds, especially for large diameter heavy tubular constructions

General plate fabrication, including bridge construction, hull plate and stiffener welding on ships and barges, offshore