

Innershield® NR®-311

Self-shielded cored wire

Classification

AWS A5.20/A5.20M : E70T-7

General description

Self shielded: easiest equipment arrangement
Good penetration, as in column butt welds and narrow gap welds
Fast travel speed
High deposition rates

Welding positions



ISO/ASME PA/1G PB/2F PC/2G PG/3G down

Current type

DC -

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

C	Mn	Si	P	S	Al
0.27	0.40	0.08	0.007	0.005	1.5

Mechanical properties, all weld metal

	Condition	Yield strength (N/mm ²)	Tensile strength (N/mm ²)	Elongation %	Impact ISO-V(J)
Required:	AWS A5.20	min. 400	480	22	not required
Typical values	AW	430	590	24	

Packaging and available sizes

Unit type	Net weight/unit (kg)	Diameter (mm)	
		2.0	2.4
Coils 14C	6.35	X	
Coils 50C	22.68		X

Innershield® NR®-311: rev. EN 20

Innershield® NR®-311

Suggestions for use

Horizontal butt welds such as column structural connections

Fillet and lap welds in the flat horizontal and downhill positions

Deep groove welds. The penetration and extremely easy slag removal permit using a narrow gap and small bevel angle to minimize the total amount of weld metal needed to fill the joint.

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

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	32	255	190	21	2.2	1.28
		405	275	25	3.6	1.28
		760	4100	28	7.1	1.28

Welding parameters, optimum fill passes

Diameter (mm)	Wire feed speed/ Current/ Voltage	Welding position			
		PA/1G	PB/2F	PC/2G	PG/3G down
2.0	(cm/min.)	610	510	410	380
	(A)	355	320	280	260
	(V)	26	26	25	25

FCAW