

Innershield® NR®-305

Self-shielded cored wire

Classification

AWS A5.20/A5.20M : E70T-6

General description

NR-305 is a self-shielded flux cored wire

Not intended for out-of-position welding, but can be used on 15° max. downhill and 5° max. uphill applications

High deposit rates and fast travel speed

Easy handling

Recommended for maximum productivity, downhand welding

Welding positions



ISO/ASME

PA/1G

PB/2F

Current type

DC +

Approvals

ABS	BV	DNV
2SA,2YSA	SA2YMH	IYMS

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

C	Mn	Si	P	S	Al
0.09	0.9	0.20	0.007	0.008	0.80

Mechanical properties, typical, all weld metal

	Condition	Yield strength (N/mm ²)	Tensile strength (N/mm ²)	Elongation %	Impact ISO-V(J) -29°C
Required:	AWS A5.20	min. 400	480	22	27
Typical values	AW	470	550	25	40

Packaging and available sizes

Unit type	Diameter (mm)		
	1.7	2.0	2.4
22.68 kg coil 50C	X	X	X

Innershield® NR®-305: 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

EN 10025 part 4 S275, S355

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	510	275	24	3.75	1.22
		635	325	25	4.60	1.22
		890	390	27	6.35	1.22
2.0	19-25	510	360	22.5	4.50	1.22
		635	410	25	5.90	1.22
		1140	545	32.5	11.10	1.22
2.4	38-65	405	330	21	5.00	1.23
		610	425	24	7.55	1.23
		1015	525	33	12.70	1.23

Welding parameters, optimum fill passes

Diameter (mm)	Welding position	PA/1G		PB/2F	
		Wire feed speed (cm/min.)	Voltage (V)	Wire feed speed (cm/min.)	Voltage (V)
1.7	Wire feed speed (cm/min.)	635	635		
	Voltage (V)	25	25		
2.0	Wire feed speed (cm/min.)	890	635		
	Voltage (V)	25	24		
2.4	Wire feed speed (cm/min.)	710	610		
	Voltage (V)	27	24		

Remarks/ Application advice

Typical applications include bridge, ship, barge or offshore drilling rig construction and machinery, structural and general fabrication. NR-305 can be used for single and multiple pass fillet and lap welds and for deep groove butt welds in the flat position.