



DATA SHEET
DS 251
Rev. 6 dd 24/09/2014
INESUB S2

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CLASSIFICATION

AWS SPECIFICATIONS	EN SPECIFICATIONS
AWS A 5.17: EM12K	EN ISO 14171-A: S2
AWS A 5.17M: EM12K	
ASME SFA 5.17: EM12K	
ASME SFA 5.17M: EM12K	

APPROVALS

TÜV	RINA (with INEFLUX MP)	

ALLOY TYPE

Solid wire for submerged arc welding carbon and C-Mn steels.

APPLICATIONS

Copper-coated solid wire for submerged arc welding with 1% Mn content to be used for the welding of carbon and C-Mn steels. Applications include beams, tanks, pressure vessels and shipyards. To be used with Mn-active fluxes such as INEFLUX MP.

MATERIALS TO BE WELDED

ASTM		EN		Others
A139	A131 Gr A, B, D	10113-2 S275	10113-3 S420M	Fe 360
A210 Gr A1	API 5LX42	10113-2 S355	10113-3 S420ML	Fe 430
A210 Gr C	API 5LX46	10113-2 S420	10025 S185, S235	Fe 510
A36	API 5LX52	10113-3 S275M	10025 S275, S355	(steel group 1 EN
A234 Gr WPB	API 5LX60	10113-3 S275ML	10208-1 L210, L240	288/3)
A334 Gr 1		10113-3 S355M	10208-1 L290, L360	
A106 Gr A, B, C		10113-3 S355ML		

WELDING GUIDELINES

Preheat and PWHT are not required.

TECHNICAL INFORMATION

Welding positions: flat and flat-frontal



WELDING PARAMETERS

Current	DC + Reverse polarity, AC					
Diameter (mm)	2.0	2.4	3.2	4.0		
Intensity (A)	300 ÷ 400	350 ÷ 450	430 ÷ 530	480 ÷ 580		
Volts (V)	26 ÷ 29	27 ÷ 30	27 ÷ 30	27 ÷ 30		



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TYPICAL CHEMICAL COMPOSITION OF WIRE

C %	Mn %	Si %	S %	P %	Cr %	Ni %	Mo %	Cu %	
0.10	1.00	0.12	0.010	0.010	-	-	-	0.15	

NOTE: refer to the results obtained with the relevant flux for the mechanical characteristics of the deposited metal.

PRODUCTS AVAILABLE

Process	Product	Classification AWS	Classification EN
MIG/MAG Solid wire	INEFIL S2	AWS A 5.18: ER70S-2	EN 14341-A: G2Ti
	INEFIL 13.7	AWS A 5.18: ER70S-3	EN 14341-A: G2Si
	INEFIL S4	AWS A 5.18: ER70S-4	EN 14341-A: G3Si1
	INEFIL	AWS A 5.18: ER70S-6	EN 14341-A: G3Si1
	INEFIL 19.12	AWS A 5.18: ER70S-6	EN 14341-A: G4Si1
	INEFIL NR	AWS A 5.18: ER70S-6	EN 14341-A: G3Si1
TIG Rods	INETIG S2	AWS A 5.18: ER70S-2	EN 636-A: W2Ti
	INETIG 13.7	AWS A 5.18: ER70S-3	EN 636-A: W2Si
	INETIG	AWS A 5.18: ER70S-6	EN 636-A: W3Si1
SAW Submerged arc	INESUB S2Si	AWS A 5.17: EM12K	EN 14171-A: S2Si
	INESUB S3Si	AWS A 5.17: EH12K	EN 14171-A: S3Si
FCAW Cored wire	INETUB R71T1	AWS A 5.20: E71T-1	EN 17632-A: T 46 2 P M
	INETUB R70T1	AWS A 5.20: E70T-1	EN 17632-A: T 42 2 R M
	INETUB R71T1-CO2	AWS A 5.20: E71T-1	EN 17632-A: T 46 2 P C
	INETUB M71TG	AWS A 5.18: E70C-6	EN 17632-A: T 46 2 M M
	INETUB B71T5	AWS A 5.20: E71T-5	EN 17632-A: T 46 4 B M
SMAW Electrodes	INE 50 B	AWS A 5.1: E7018	EN 2560-A: E 42 4 B
	INE 55 B	AWS A 5.1: E7018-1	EN 2560-A: E 42 4 B