



**DATA SHEET
DS 111
Rev. 05 dd 31/01/2013
INETIG**

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CLASSIFICATION

AWS SPECIFICATIONS	EN SPECIFICATIONS
AWS A 5.18: ER70S-6	EN ISO 636-A: W 46 4 W3Si1
AWS A 5.18M: ER48S-6	
ASME SFA 5.18: ER70S-6	
ASME SFA 5.18M: ER48S-6	

APPROVALS

DB	TÜV	

ALLOY TYPE

Copper-coated tig rod for welding carbon and carbon-manganese steels with tensile strength up to 510 MPa.

APPLICATIONS

Copper-coated tig rod designed for welding carbon and carbon-manganese steels with tensile strength up to 510 MPa. Applications include tanks, boilers, steel structural works, earthworks and construction works. It is used in root pass and to support the welding when no back pass is possible. Excellent mechanical and toughness properties when in low temperature conditions.

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	(acciai gruppo 1
A234 Gr WPB	API 5LX60	10113-3 S275ML	10208-1 L210, L240	EN 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

Gas: Argon 100% (EN ISO 14175)
Welding position: all positions



WELDING PARAMETERS

Current	DC - Straight polarity
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PACKAGING DATA

Diameter (mm)	1.2	1.6	2.0	2.4	3.2	4.0
Length (mm)	1000	1000	1000	1000	1000	1000
Carton	5/25 Kg	5/25 Kg	5/25 Kg	5/25 Kg	5/25 Kg	5/25 Kg

* tolerances according to EN ISO 544 specification.



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TYPICAL CHEMICAL COMPOSITION OF WIRE

C %	Mn %	Si %	S %	P %	Cu %	Ni %	Cr %	Mo %	
0.08	1.45	0.80	0.012	0.012	0.15	-	-	-	

TYPICAL MECHANICAL PROPERTIES

GAS		Yield strength	Tensile strength	Elongation on % 5d	Impact energy (Charpy V)				
		Rs	Rm	A 5d	+ 20°C	-20°C	-30°C	-40°C	-50°C
		(MPa)	(MPa)	%	(Joule)	(Joule)	(Joule)	(Joule)	(Joule)
Argon	as welded	480	580	28	160	120	90	70	-

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
	INE SPEEDFIL	AWS A 5.18: ER70S-6	EN 14341-A: G3Si1
	INEFIL NR	AWS A 5.18: ER70S-6	EN 14341-A: G3Si1
	INEFIL 19.12 NR	AWS A 5.18: ER70S-6	EN 14341-A: G4Si1
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
SAW Submerged arc	INESUB S2	AWS A 5.17: EM12K	EN 14171-A: S2
	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