



**DATA SHEET**  
**DS 123**  
**Rev. 7 dd 07/01/2020**  
**INETIG B3 L**

I.N.E. S.p.A.  
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**CLASSIFICATION****APPROVALS**

AWS SPECIFICATIONS	EN SPECIFICATIONS
AWS A 5.28: ER80S-B3L	EN ISO 21952-B: W 55 I1 2C1ML
AWS A 5.28M: ER55S-B3L	
ASME SFA 5.28: ER80S-B3L	
ASME SFA 5.28M: ER55S-B3L	


**ALLOY TYPE**

2.25Cr-1Mo content to be used for the welding of creep resistant steel.

**FINISHING**

The TIG rod is available in two different surface finishing: Copper coated and "bare" Copper free.

**APPLICATIONS**

Low alloy TIG rod with 2.25% Cr and 1% Mo content, with low carbon concentration (less than 0.05%), to be used for the welding of creep resistant steel. Chemical composition of rod conforming to AWS specification. It is used in chemical industry and in the ammonia synthesis process, for heat exchangers, boilers, piping and pressure vessels for temperature service up to about 600°C. It will also find applications in the petro-chemical industries, suitable for facing on casting and for casting repairs.

**MATERIALS TO BE WELDED**

ASTM		EN		Others
A387 Gr 21&22	A200 T21, T22	10222-2 12CrMo 9-10	(BS 1503 Gr 622)	
A182 F22	A213 T22	10028-2 10CrMo 9-10	(BS 1504 Gr 622)	
A217 WC9	A335 P22	(GS-18CrMo 9-10)	(BS 3100 Gr B3)	
A234 WP22	A199 T21, T22	(DIN 11CrMo 9-10)	(BS 3604 Gr 622)	
		(DIN 6CrMo 9-10)	(BS 3059 Gr 622/640)	
		(DIN 12CrMo 9-10)	(BS 3059 Gr 622/490)	
		(BS 1501 Gr 622)		

**WELDING GUIDELINES**

Preheat and interpass temperature 200°C. PWHT at 690°C for an hour.

**TECHNICAL INFORMATION**

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

**WELDING PARAMETERS**

<b>Current</b>	<b>DC - Straight polarity</b>
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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.

**TYPICAL CHEMICAL COMPOSITION OF WIRE**

C %	Mn %	Si %	S %	P %	Cr %	Ni %	Mo %	Cu %
0.03	0.60	0.60	0.010	0.010	2.50	-	1.00	0.15 (Copper coated finishing) 0.03 (Copper free finishing)

**TYPICAL MECHANICAL PROPERTIES**

GAS		Yield strength	Tensile strength	Elongation on	Impact energy (Charpy V)				
		Rs	Rm	A 5d	+ 20°C	0°C	-20°C	-40°C	-60°C
		(MPa)	(MPa)	%	(Joule)	(Joule)	(Joule)	(Joule)	(Joule)
I1	after PWHT	510	600	22	200	-	-	-	-

**PRODUCTS AVAILABLE**

Process	Product	Classification AWS	Classification EN
MIG/MAG Solid wire	INEFIL B3	AWS A 5.28: ER90S-B3	EN 21952-B: G 2C1M
	INEFIL CROMO 2	AWS A 5.28: ER90S-G	EN 21952-A: G CrMo2Si
	INEFIL B3 L	AWS A 5.28: ER80S-B3L	EN 21952-B: G 2C1ML
TIG Rods	INETIG CROMO 2	AWS A 5.28: ER90S-G	EN 21952-A: W CrMo2Si
	INETIG B3	AWS A 5.28: ER90S-B3	EN 21952-B: W 2C1M
SAW Submerged arc	INESUB EB3	AWS A 5.23: EB3	EN 24598-A: S CrMo2
	INESUB EB3R	AWS A 5.23: EB3R	EN 24598-A: S CrMo2
FCAW Cored wire	INETUB B91T5-B3	AWS A 5.29: E91T5-B3	EN 17634-A: T CrMo2
	INETUB M91TG-B3	AWS A 5.28: E90C-B3	EN 17634-A: T CrMo2
	INETUB R91T1-B3	AWS A 5.29: E91T1-B3	EN 17634-A: T CrMo2
SMAW Electrodes	INE B3	AWS A 5.5: E9018-B3	EN 3580-A: E CrMo2
	INE B3 L	AWS A 5.5: E8018-B3L	EN 3580-A: E CrMo2L