



DATA SHEET
DS 068
Rev. 6 dd 14/05/2015
INEFIL 110

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CLASSIFICATION

APPROVALS

AWS SPECIFICATIONS	EN SPECIFICATIONS
AWS A 5.28: ER110S-1	(EN ISO 16834-A: G Mn3Ni2,5CrMo)
AWS A 5.28M: ER76S-1	
ASME SFA 5.28: ER110S-1	
ASME SFA5.28M: ER76S-1	

ALLOY TYPE

Copper-coated solid wire for welding high strength steels.

APPLICATIONS

Low-alloy copper-coated solid wire with Ni-Cr-Mo additions designed for welding high yield strength steels and with tensile strength higher than 800 MPa. Chemical composition of wire conforming to AWS specifications. Excellent impact strength at low temperatures. Suitable for the metal working industry, offshore fabrication, chemical and petrochemical industry. It also has applications in fabrications of HSLA (high-strength low-alloy) steels, which may be used for industrial machinery construction, cranes and other highly stressed structural components. To be used under the shield of Ar+O₂.

MATERIALS TO BE WELDED

ASTM		EN		Others
A 514	API 5LX X65	10137-2 S460	10208-2 L480	RQT 601
A 517	API 5LX X70	10137-2 S500	10208-2 L550	Navy Q1
HY80	API 5LX X80	10137-2 S550	(BS 4360 Gr 55F)	NAXTRA 70
HY90	API 5A L80	10137-2 S620		WELDOX 700
HY100		10137-2 S690		

WELDING GUIDELINES

Preheat and interpass temperature 150°C. PWHT is not required. To obtain the best mechanical properties results, the use with low heat input is advised (follow the steel producer recommendations).

TECHNICAL INFORMATION

Gas: Mix Ar- O₂ (EN 14175)
Welding position: all positions



WELDING PARAMETERS

Current	DC + Reverse polarity				
	0.8	1.0	1.2	1.6	
Diameter (mm)					
Volts (V)	16 ÷ 28	17 ÷ 32	18 ÷ 34	19 ÷ 38	
Intensity (A)	60 ÷ 200	80 ÷ 260	100 ÷ 360	130 ÷ 450	



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TYPICAL CHEMICAL COMPOSITION OF WIRE

C %	Mn %	Si %	S %	P %	Cr %	Ni %	Mo %	Cu %	
0.06	1.60	0.40	0.007	0.007	0.30	2.50	0.40	0.12	

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	-50°C
		(MPa)	(MPa)	%	(Joule)	(Joule)	(Joule)	(Joule)	(Joule)
M13	as welded	730	800	18	160	-	140	90	70

PRODUCTS AVAILABLE

Process	Product	Classification AWS	Classification EN
MIG/MAG Solid wire	INEFIL 100	AWS A 5.28: ER100S-1	EN 16834-A: G Mn3Ni1,5Mo
	INEFIL NIMOCR	AWS A 5.28: ER100S-G	EN 16834-A: G M Mn3Ni1CrMo
	INEFIL 70	AWS A 5.28: ER100S-G	EN 16834-A: G Mn3NiCrMo
	INEFIL NIMO	AWS A 5.28: ER100S-G	EN 16834-A: G Mn3Ni1Mo
TIG Rods	INETIG 100	AWS A 5.28: ER100S-1	EN 16834-A: W Mn3Ni1,5Mo
	INETIG 110	AWS A 5.28: ER110S-1	(EN 16834-A: W Mn3Ni2,5CrMo)
SAW Submerged arc	INESUB S3NIMO	AWS A 5.23: EG	EN 26304-A: S3Ni1Mo
	INESUB EF3	AWS A 5.23: EF3	EN 26304-B: SUN2M33
FCAW Cored wire	INETUB M111TG-K3	AWS A 5.28: E110C-K3	EN 18276-A: T 2NiMo
	INETUB M91TG	AWS A 5.28: E90C-G	EN 18276-A: T 55 5 Z M M
	INETUB M121TG-K4	AWS A 5.28: E120C-K4	EN 18276-A: T Mn2NiCrMo
	INETUB B121T5-K4	AWS A 5.29: E121T5-K4	EN 18276-A: T Mn2NiCrMo
SMAW Electrodes	INE 80 B	AWS A 5.5: E10018M	EN 18275-A: E 1NiMo