



DATA SHEET
DS 055
Rev. 7 dd 02/12/2014
INEFIL 120

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CLASSIFICATION

APPROVALS

AWS SPECIFICATIONS	EN SPECIFICATIONS
AWS A 5.28: ER120S-G	EN ISO 16834-A: G 89 4 M21 Mn4Ni2CrMo
ASME SFA 5.28: ER120S-G	

TÜV	DB	

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 strength steels with minimum yield strength of 890 MPa and minimum tensile strength of 940 MPa. Excellent mechanical properties of weld metal and good toughness characteristics at low temperature. It could find application in earth moving equipment, cranes and industrial trucks fabrication. To be used under the shield of Ar+CO₂.

MATERIALS TO BE WELDED

ASTM		EN	Others	
API 5A L80		EN 10137-2: S690QL	RQT 701	DILIDUR 890/960
HY80		EN 10137-2: S890QL	Navy Q1	WELDOX 890/960
HY100		EN 10137-2: S960QL	NAXTRA 70	XABO 890/960
		(BS 4360 Gr 55F)	WELDOX 900	DOMEX 900/960
			QT 445	ALFORM 960 M
			HYSTAL 77	OX 1002

WELDING GUIDELINES

Preheat and interpass temperature up to 200°C. PWHT is not required. To obtain the best results in terms of the mechanical properties, the use with low heat input is advised (follow the instructions as indicated by steel producer).

TECHNICAL INFORMATION

Gas: Mix Ar- CO₂ (EN 14175)
Welding positions: all positions



WELDING PARAMETERS

Current	DC + Reverse polarity					
	1.0	1.2	1.6			
Diameter (mm)	1.0	1.2	1.6			
Volts (V)	15 ÷ 28	16 ÷ 34	19 ÷ 37			
Intensity (A)	90 ÷ 240	110 ÷ 350	140 ÷ 450			



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TYPICAL CHEMICAL COMPOSITION OF WIRE

C %	Mn %	Si %	S %	P %	Cr %	Ni %	Mo %	Cu %	Ti %
0.08	1.90	0.80	0.007	0.007	0.40	2.15	0.50	0.08	0.10

TYPICAL MECHANICAL PROPERTIES

GAS		Yield strength	Tensile strength	Elongation on % 5d	Impact energy (Charpy V)				
		Rs	Rm	A 5d	+ 20°C	-30°C	-40°C	-50°C	-60°C
		(MPa)	(MPa)	%	(Joule)	(Joule)	(Joule)	(Joule)	(Joule)
M21	as welded	890	940	16	140	100	90	60	-

PRODUCTS AVAILABLE

Process	Product	Classification AWS	Classification EN
MIG/MAG Solid wire	INEFIL 120 S1	AWS A 5.28: ER120S-1	EN 16834-A: G Mn4Ni2Mo
	INEFIL 110	AWS A 5.28: ER110S-1	(EN 16834-A: G Mn3Ni2,5CrMo)
TIG Rods	INETIG 120	AWS A 5.28: ER120S-G	EN 16834-A: W Mn4Ni2CrMo
	INETIG 120 S1	AWS A 5.28: ER120S-1	EN 16834-A: W Mn4Ni2Mo
	INETIG 110	AWS A 5.28: ER110S-1	(EN 16834-A: W Mn3Ni2,5CrMo)
SAW Submerged arc			
FCAW Cored wire	INETUB M121TGK4	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			