



DATA SHEET
DS 351
Rev. 06 dd 23/07/2014
INEFIL INOX 307 SI

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CLASSIFICATION

AWS SPECIFICATIONS	EN SPECIFICATIONS
(AWS A 5.9: ER307)	EN ISO 14343-A: G 18 8 Mn
(AWS A 5.9M: ER307)	
(ASME SFA 5.9: ER307)	
(ASME SFA 5.9M: ER307)	

APPROVALS

TÜV	DB	

ALLOY TYPE

Solid stainless steel wire for welding dissimilar steels.

APPLICATIONS

Inox solid wire designed for welding dissimilar steels and those with 13% manganese content. Suitable for heterogeneous cold welding, without preheat, of carbon, stainless, wear-resistant and armor steels. It is also used as a cushion layer and cladding intermediary layers. Resistance to hot cracking is provided by the high manganese content. In some cases this wire may offer an alternative to high nickel weld metal in joints between cast iron and stainless steels. Used as a wear-resistant material of rails which work hardens from 200 to 400 HV. To be used under the shield of Ar 98% + O₂ 2%.

MATERIALS TO BE WELDED

ASTM	EN	Others
		14% Mn steels
		13-17% Cr steels

WELDING GUIDELINES

Preheat and interpass temperature depend on base metal hardenability. PWHT is not required.

TECHNICAL INFORMATION

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

**WELDING PARAMETERS**

Current	DC + Reverse polarity					
	Diameter (mm)	1.0	1.2			
Volts (V)	17 ÷ 30	18 ÷ 32				
Intensity (A)	80 ÷ 230	100 ÷ 330				



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TYPICAL CHEMICAL COMPOSITION OF WIRE

C %	Mn %	Si %	Cr %	Ni %	Mo %	Cu %			
0.05	6.80	0.70	18.50	8.00	0.10	0.10			

TYPICAL MECHANICAL PROPERTIES

GAS		Yield strength	Tensile strength	Elongation on % 5d	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	490	650	34	> 47	-	-	-	-

PRODUCTS AVAILABLE

Process	Product	Classification AWS	Classification EN
MIG/MAG Solid wire			
TIG Rods	INETIG INOX 307 SI	(AWS A 5.9: ER307)	EN 14343-A: W 18 8 Mn
SAW Submerged arc			
FCAW Cored wire			
SMAW Electrodes	INOX 307	AWS A 5.4: E307-16	EN 3581-A: E 18 9 Mn Mo R