



**DATA SHEET**  
**DS 358**  
**Rev. 5 dd 14/01/2013**  
**INEFIL INOX 309 LSI**

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**CLASSIFICATION**

**APPROVALS**

AWS SPECIFICATIONS	EN SPECIFICATIONS
AWS A 5.9: ER309LSi	EN ISO 14343-A: G 23 12 L Si
AWS A 5.9M: ER309LSi	
ASME SFA 5.9: ER309LSi	
ASME SFA 5.9M: ER309LSi	


**ALLOY TYPE**

309L for welding austenitic stainless steel.

**APPLICATIONS**

Solid wire with low carbon concentration designed for welding stainless steel with 23% Cr and 13% Ni content with service temperature in the range of -80°C and 300°C. Suitable for heterogeneous welding, generally between dissimilar steels, stainless and carbon-manganese steels. It is used for joints and cushion layers for stainless filler metal. Thanks to the higher silicon content its arc stability gets improved, it gives good-looking weld bead and very limited spattering. To be used under the shield of Ar 98% + O<sub>2</sub> 2%.

**MATERIALS TO BE WELDED**

ASTM		EN	Others
309	309 S	10088-1/-2 X2CrNiN 18-10	
309 L	TP 309	10088-1/-2 X2CrNi 19-11	
304 LN	TP 309 S	10088-1/-2 X5CrNi 18-10	
304 L		10213-4 GX40CrNiSi 22-9	
CF3		10213-4 GX25CrNiSi 18-9	
304		10213-4 GX25CrNiSi 20-4	
		10088-1/-2 X15CrNiSi 20-12	

**WELDING GUIDELINES**

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

**TECHNICAL INFORMATION**

Gas: Mix Ar- O<sub>2</sub> (EN ISO 14175)  
 Welding positions: all positions



**WELDING PARAMETERS**

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



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**TYPICAL CHEMICAL COMPOSITION OF WIRE**

C %	Mn %	Si %	Cr %	Ni %	Mo %	Cu %			
0.02	1.80	0.70	24.00	14.00	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	440	560	40	> 47	-	-	-	-

**PRODUCTS AVAILABLE**

Process	Product	Classification AWS	Classification EN
MIG/MAG Solid wire			
TIG Rods	INETIG INOX 309 LSI	AWS A 5.9: ER309LSi	EN 14343-A: W 23 12 L Si
SAW Submerged arc			
FCAW Cored wire			
SMAW Electrodes	INOX 309 RLC	AWS A 5.4: E309L-17	EN ISO 3581-A: E 23 12 L R