



**DATA SHEET
DS 221
Rev. 05 dd 27/09/2013
INOX 316 RLC**

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CLASSIFICATION

AWS SPECIFICATIONS	EN SPECIFICATIONS
AWS A 5.4: E316L-17	EN ISO 3581-A: E 19 12 3 L R
AWS A 5.4M: E316L-17	
ASME SFA 5.4: E316L-17	
ASME SFA 5.4M: E316L-17	

APPROVALS

ALLOY TYPE

316L for welding stainless steel.

APPLICATIONS

Rutile-coated electrode with low carbon concentration designed for welding stainless steel with 19% Cr, 12% Ni and 2-3% Mo content with service temperature up to 400°C. It finds application in pipes fabrication, weld overlay, vessels & boilers fabrication, ship building and marine or salt environment. Generally good resistance to corrosion, intercrystalline corrosion and to many acids. Suitable for all positions, very good looking weld bead and easily removable slag.

MATERIALS TO BE WELDED

ASTM		EN	Others
316	316 Ti	10088-1/-2 X2CrNiMo 17-12-2	
316 L	316 Cb	10088-1/-2 X2CrNiMo 18-14-3	
316 LN		10088-1/-2 X2CrNiMoN 17-11-2	
CF3 M		10088-1/-2 X2CrNiMoN 17-13-3	
CF8 M		10088-1/-2 X4CrNiMo 17-12-2	
		10088-1/-2 X4CrNiMo 17-13-3	
		10213-4 GX5CrNiMo 19-11	

WELDING GUIDELINES

Preheat and PWHT are not required. Maximum interpass temperature 250°C.

TECHNICAL INFORMATION

Welding positions: all positions



WELDING PARAMETERS

Current	AC / DC - (+) Straight polarity				
	2.0	2.5	3.2	4.0	
Diameter (mm)	2.0	2.5	3.2	4.0	
Length (mm)	300	300	350	350	
Intensity (A)	30 ÷ 60	40 ÷ 80	70 ÷ 100	90 ÷ 140	



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TYPICAL CHEMICAL COMPOSITION OF WELD METAL

C %	Mn %	Si %	S %	P %	Cu %	Ni %	Cr %	Mo %	
0.03	0.70	0.70	0.015	0.015	0.05	12.00	18.00	2.50	

TYPICAL MECHANICAL PROPERTIES

	Yield strength	Tensile strength	Elongation on % 5d	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)
as welded	350	490	30	60	-	-	-	-

PRODUCTS AVAILABLE

Process	Product	Classification AWS	Classification EN
MIG/MAG Solid wire	INEFIL INOX 316 LSI	AWS A 5.9: ER316L	EN 14343-A: G 19 12 3 L Si
TIG Rods	INETIG INOX 316 L INETIG INOX 316 LSI	AWS A 5.9: ER316L AWS A 5.9: ER316LSi	EN 14343-A: W 19 12 3 L EN 14343-A: W 19 12 3 L Si
SAW Submerged arc			
FCAW Cored wire			
SMAW Electrodes			