

<b>Classifications</b>							
EN ISO 14343-A	EN ISO 14343-B	AWS A5.9	Mat. No.				
W 19 12 3 Nb	SS318	ER318	1.4576				
<b>Characteristics and typical fields of application</b>							
Stainless; resistant to intercrystalline corrosion and wet corrosion up to 400 °C (752 °F). Corrosion-resistant similar to matching stabilized CrNiMo steels. For joining and surfacing application with matching and similar – stabilized and non-stabilized – austenitic CrNi(N) and CrNiMo(N) steels and cast steel grades.							
<b>Base materials</b>							
TÜV-certified parent metal 1.4583 – X10CrNiMoNb18-12, AISI 316L, 316Ti, 316Cb							
<b>Typical analysis of the TIG rods (wt.-%)</b>							
	C	Si	Mn	Cr	Mo	Ni	Nb
wt-%	0.04	0.4	1.7	19.5	2.7	11.5	≥ 12xC
<b>Structure:</b> Austenite with part ferrite							
<b>Mechanical properties of all-weld metal</b>							
Heat-treatment	Yield strength R <sub>p0.2</sub>	Yield strength R <sub>p1.0</sub>	Tensile strength R <sub>m</sub>	Elongation A (L <sub>0</sub> =5d <sub>0</sub> )	Impact work ISO-V KV J		
	MPa	MPa	MPa	%	+20 °C		
aw	400	430	600	30	100		
<b>Operating data</b>							
Polarity:	Shielding gas:	Marks:	ø (mm)	L mm			
DC (–)	(EN ISO 14175) I 1	✚ W 19 12 3 Nb / ER318	1.0	1000			
			1.6	1000			
			2.0	1000			
			2.4	1000			
			3.2	1000			
			4.0	1000			
			5.0	1000			
<b>Welding instruction</b>							
Materials	Preheating	Postweld heat treatment					
Matching / similar steels / cast steel grades	None	Mostly none. If necessary, solution annealing at 1050 °C (1922 °F) – pay attention to tendency to embrittlement					
<b>Approvals</b>							
TÜV (09474), DB (43.132.27), GL							