TIG 18/15

Old reference: TIG 317L

Classification

AWS A5.9 : ER317L

ISO 14343-A : W 18 15 3 L

Description & Applications

Low carbon solid rod for GTAW of low carbon stainless steel with about 3.5% of Molybdenum. Used for welding and cladding on austenitic Cr-Ni-Mo stainless and clad plates. Compared to 316L grades the higher Molybdenum (Mo) content provides better general corrosion resistance, especially to crevice and pitting corrosion in chloride containing solutions.

Main applications: Chemical and petrochemical industries, in refineries, in the food industries and for ship building to weld pipes, tanks...

Base materials

Stainless steels for general use:

UNS	*Alloy*	*EN 10088*	*Material N°*
S31603	316L	X2CrNiMo17-12-2	1.4404
S31653	316LN	X2CrNiMoN17-13-3	1.4429
S31700	317	X5CrNiMo17-13-3	1.4449
S31703	316LMo	X2CrNimo18-14-3	1.4435
S31703	317L	X2CrNiMo18-15-4	1.4438

Typical Chemical Composition (%)

	C	Si	Mn	Cr	Ni	Mo	Cu	Nb	P	S	Co	N
Min		0.30	1.0	18.5	13.0	3.0						
Max	0.03	0.65	2.5	20.0	15.0	4.0	0.5	-	0.03	0.02	-	-
Type	0.01	0.40	1.4	18.8	13.6	3.5	0.10	0.01	0.02	0.01	0.06	0.06

Delong ferrite: ~10%

All Weld Metal Mechanical Properties

	$R_{p0.2}$ (MPa)	R_m (MPa)	A_5 (%)	KV (J)	
Min	300	480	25	-	-
Max					
Type	380	580	30	+20°C	70

Welding Current & Instructions

Welding mode	Shielding Gas
TIG = -	ISO 14175 : I1 (Ar) 6-12 l/min Back shielding: I1 (Ar) / N1 (Nitrogen) : 3-6 l/min

Back shielding with Argon or Nitrogen gas or with copper backing support to avoid “back end” rust phenomena.

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