TIG 20/10MS

Old reference: TIG 316LSi

Classification

AWS A5.9 : ER316LSi ISO 14343-A : W 19 12 3 L Si

Description & Applications

Low carbon solid rod with increased Silicon content for GTAW of stainless steels like 316, 316L, or without Molybden like 304, 304L. Mainly used for general construction with service temperature from -120°C up to +400°C.

High Silicon content improves alloy fluidity during welding.

Main applications: Boiler making, piping system, pressure vessels, power plant, chemical and petrochemical industries, refineries, food industries…

Base materials:

Stainless steels for general uses:

UNS	*Alloy*	*EN 10088*	*Material N°*
S31600	316	X5CrNiMo17-12-2	1.4401
S31603	316L	X2CrNiMo17-12-2	1.4404
S30400	304	X5CrNi18-10	1.4301
S30403	304L	X2CrNi18-10	1.4306

Typical Chemical Composition (%)

	C	Si	Mn	Cr	Ni	Mo	Cu	Nb	P	S	Co	N
Min		0.65	1.0	18.0	11.0	2.5		-			-	-
Max	0.03	1.00	2.5	20.0	14.0	3.0	0.5	-	0.03	0.02	-	-
Type	0.02	0.85	1.8	18.6	12.4	2.55	0.10	0.01	0.02	0.01	0.05	0.06

Delong ferrite: 5-15%

All Weld Metal Mechanical Properties

	$R_{p0.2}$ (MPa)	R_m (MPa)	A_5 (%)	KV (J)	
Min	320	510	25	-	-
Max				-	-
Type	430	580	35	+20°C -196°C	100 45

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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