MIG 20/10MNBS

Classification

AWS A5.9 : ~ER318 ISO 14343-A : G 19 12 3 Nb Si

Description & Applications

Low Carbon solid wire with Silicon increased content for GMAW of stainless steels stabilised with Niobium like 318, with Titanium like 316Ti. Good resistance against intergranular corrosion, device corrosion in chloride astmophere with service temperature up to 400°C and oxydation.

Main applications: Petrochemical industries and for sea water applications.

Base materials:

Stainless steels for general use:

UNS	*Alloy*	*EN 10088*	*Material N°*
S31600	316	X5CrNiMo17-12- 2	1.4401
S31603	316L	X2CrNiMo17-12-2	1.4404
S31635	316Ti	X6CrNiMoTi17-12-2	1.4571
S31640	316Cb	X6CrNiMoNb17-12-2	1.4404

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		10 x C			-	-
Max	0.08	1.2	2.5	20.0	14.0	3.0	0.5	1.0	0.03	0.02	-	-
Type	0.04	0.85	1.7	19.6	11.5	2.6	0.20	0.60	0.02	0.01	0.06	0.05

All Weld Metal Mechanical Properties

	$R_{p0.2}$ (MPa)	R_m (MPa)	A_5 (%)	KV (J)	
Min	350	550	25	-	-
Max				-	-
Type	400	620	35	+20°C	120

Welding Current & Instructions

Welding mode	Wire Ø (mm)	Welding parameters		Shielding Gas
		Current (A)	Voltage (V)	
GMAW = +	0.8 1.0 1.2 1.6	70 - 180 80 - 220 150 - 320 220 - 380	18 - 26 18 - 28 22 - 32 24 - 34	ISO 14175: M12 (Ar+0.5-5%CO_2) M13 (Ar+0.5-3%O_2) 15-20 l/min

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

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