MIG 20/10MN

Classification

AWS A5.9 : ER316LMn ISO 14343-A : G 20 16 3 Mn L

Description & Applications

Low Carbon solid wire for GMAW of austenitic stainless steels like 316L or 304L grade used for cryogenic applications. Non-magnetic and free of ferrite on weld deposit.

Main applications: Cryogenic applications.

Base materials:

Stainless steels for cryogenic applications:

UNS	*Alloy*	*EN 10088*	*Material N°*
S31603	316L	X2CrNiMo17-12-2	1.4404
S30403	304L	X2CrNi18-10	1.4306

Typical Chemical Composition (%)

	C	Si	Mn	Cr	Ni	Mo	Cu	Nb	P	S	Co	N
Min		0.30	5.0	19.0	15.0	2.5		-			-	0.10
Max	0.03	0.65	9.0	22.0	18.0	3.5	0.5	-	0.03	0.02	-	0.20
Type	0.02	0.50	7.0	20.0	16.0	3.0	0.15	0.01	0.02	0.01	0.06	0.15

All Weld Metal Mechanical Properties

	$R_{p0.2}$ (MPa)	R_m (MPa)	A_5 (%)	KV (J)	
Min	320	510	25	-	-
Max				-	-
Type	500	650	30	+20°C -196°C	140 95

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.