MIG 20/10

Classification

AWS A5.9 : ER308L ISO 14343-A : G 19 9 L

Description & Applications

Low carbon solid wire for GMAW of stainless steels like 304 and 304L, stabilised with Niobium like 347 and stabilised with Titanium like 321. Used for applications with service temperature between -120°C to +350°C.

Main applications: Boiler making, piping systems…

Base materials

Stainless steels for general use:

UNS	*Alloy*	*EN 10088*	*Material N°*
S30400	304	X5CrNi18-10	1.4301
S30403	304L	X2CrNi19-11	1.4306
S32100	321	X6CrNiTi18-10	1.4541
S34700	347	X6CrNiNb18-10	1.4550

Typical Chemical Composition (%)

	C	Si	Mn	Cr	Ni	Mo	Cu	Nb	P	S	Co	N
Min		0.30	1.0	19.5	9.0			-			-	-
Max	0.03	0.65	2.5	21.0	11.0	0.5	0.5	-	0.03	0.02	-	-
Type	0.015	0.40	1.8	19.7	9.8	0.10	0.10	0.01	0.02	0.01	0.05	0.06

Delong ferrite: 6-12%

All Weld Metal Mechanical Properties

	$R_{p0.2}$ (MPa)	R_m (MPa)	A_5 (%)	KV (J)	
Min	320	520	35	-	-
Max				-	-
Type	430	600	38	+20°C -196°C	100 50

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.