

ArcStar 81N1M

AWS A5.29 E81T1-Ni1M-J
EN ISO 17632-A-T 46 4 1Ni P M21 1 H5

Characteristics and Applications:

ArcStar 81N1M is a gas-shielded flux cored wire for all-position welding. It is designed for welding 590 N/mm² high tensile steel for low temperatures.

It provides good weldability with smooth bead appearance, less spatter and stable arc as well as good impact properties down to -50°C.

It is also suitable for welding on construction machinery, shipbuilding, offshore, structures, bridges, storage tanks and piping.

Notes on usage:

1. Excessive heat input should reduce impact value. Therefore, perform welding with selecting proper heat input based on the required impact value.
2. Must pre-heat at 50~150°C varied on steels, plate thickness and restraint.
3. Use DC(+) polarity.
4. Use 75~80%Ar+25~20%CO₂ as shielding gas.

Typical chemical composition of weld metal (wt%):

	C	Mn	Si	P	S	Ni
AWS	≤0.12	≤1.75	≤0.80	≤0.030	≤0.030	0.80-1.10
EN ISO	-	≤1.4	≤0.80	-	-	0.6-1.2
Typical value	0.05	1.25	0.15	0.012	0.007	1.00

Typical mechanical properties of weld metal:

	Yield strength MPa(ksi)	Tensile strength MPa(ksi)	Elongation %	Charpy V-Notch J(ft-lbf)	PWHT
AWS	≥470(68)	550-690(80-100)	≥19	-40°C(-40°F)	≥27(20)
EN ISO	≥460(67)	530-680(77-99)	≥20	-40°C(-40°F)	≥47(35)
Typical value	611(89)	656(95)	26	-40°C(-40°F)	108(80)
	568(82)	628(91)	26	-50°C(-60°F)	65(48)
				600°Cx1hr	

Welding position:



Sizes and recommended parameter range (DC<+>):

Stick out:15-25(mm), flow rate:20-25(l/min):

Position	Diameter (mm)	1.2	1.6
F、HF	180A-300A / 24V-34V	200A-350A / 24V-32V	
VU、OH	150A-220A / 23V-28V	160A-220A / 22V-26V	

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