

SF-80A

☆AWS A5.29 E111T1-GM-H4

For 780MPa High Tensile Strength Steel

APPLICATIONS

Welding of YS690 steel of down to -40°C for offshore structures, cranes and construction machines.

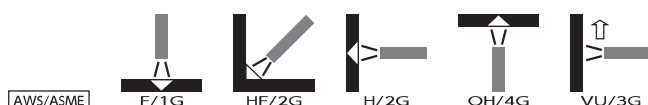
CHARACTERISTICS

SF-80A is rutile type seamless flux cored arc welding wire to be used with Ar+20%CO₂ shield gas. Weld metal shows excellent toughness in low temperature down to -40°C. Diffusible hydrogen content is as low as solid wire and crack resistance is excellent. Weldability in all positions are excellent.

GUIDELINES FOR USAGE

1. Select optimum welding conditions and control heat input in accordance with welding position, plate thickness and required toughness.
2. Enough care should be taken for gas shielding.
3. Preheating at 100~150°C is required in accordance with plate thickness, restraint, heat input, etc.
4. A suitable shield gas flow rate is 20-25L/min.
5. Distance between base metal and tip should be kept within 15-25mm.

WELDING POSITION



■ TYPICAL CHEMICAL COMPOSITION OF WELD METAL (%)

C	Si	Mn	P	S	Ni	Mo
0.06	0.38	1.60	0.010	0.004	2.37	0.34

■ TYPICAL MECHANICAL PROPERTIES OF WELD METAL (Shielding gas: Ar+20%CO₂)

Yield Strength, MPa	Tensile Strength, MPa	Elongation, %	Charpy 2V-notch at -40°C, J
755	803	24	86

■ TYPICAL WELD JOINT TEST (Shielding gas: Ar+20%CO₂)

Base metal		Welding conditions		Joint tensile test		Charpy2V-notch at -40°C, J
Type of Steel	Plate Thickness	Welding position	Heat input kJ/cm	Tensile Strength MPa	Location of Fracture	
WEL-TENT™ 780E	20	Vertical-up	13.8	820	HAZ	82

■ SIZES & RECOMMENDED CURRENT RANGE<DC(+)>

Diameter (mm)		1.2
Current A	F, H-Fil	180~300
	VU, OH	180~250