

SF-1B

☆AWS A5.20 E71T-1C/1M/9C/9M-H4

For Mild Steel and 490MPa High Tensile Strength Steel

APPLICATIONS

Welding of mild steel and 490MPa high tensile strength steel for machinery, structures, steel frames, ships, bridges, towers, rolling stock and parts which especially requires toughness.

CHARACTERISTICS

SF-1B is a rutile type seamless flux cored arc welding wire to be used with both CO₂ shield gas and Ar-CO₂ shield gas, and designed for welding shipbuilding grade D steel. Weld metal shows excellent toughness in low temperature range of -20 ~ -30 °C. Crack resistance and weldability in all positions are excellent.

GUIDELINES FOR USAGE

1. If gas shield is insufficient, nitrogen in the air will be absorbed into weld metal causing deterioration of toughness. Distance between nozzle and base metal should be kept within 20mm.
2. Select optimum welding conditions, and heat input for example, in accordance with plate thickness, welding position, etc.
3. SB-41, backing material, is recommended for one side welding.
4. For others, see GUIDELINES FOR USAGE 1-4 of SF-1.

WELDING POSITION



■ TYPICAL CHEMICAL COMPOSITION OF WELD METAL (%)

Shield Gas	C	Si	Mn	P	S
Ar+25%CO ₂	0.05	0.46	1.55	0.012	0.006

■ TYPICAL MECHANICAL PROPERTIES OF WELD METAL (Shielding gas: Ar+25%CO₂)

Yield Point MPa	Tensile Strength MPa	Elongation %	Charpy 2V-notch J	
			-30°C	-20°C
550	620	26	95	100

■ TYPICAL WELD JOINT TEST (Shielding gas: Ar+25%CO₂)

Base metal		Welding conditions		Joint tensile test		Charpy 2V-notch at -20°C, J
Type of Steel	Plate Thickness	Welding position	Heat input kJ/cm	Tensile Strength MPa	Location of Fracture	
DH36	20	Vertical-up	25.6	520	BM	90

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

Diameter (mm)		1.2	1.4	1.6
Current A	F, H, HF	180~300	200~400	220~450
	VU, OH	180~270	200~280	200~280