

SM-90D2

AWS A5.28/ ASME SFA5.28 ER90S-D2

EN ISO 14341-A: G 50 5 M21 4Mo



❖ Specifications

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❖ Applications

Low-alloy copper-coated solid wire with 0.5% Mo content designed for welding low-alloy steels with high tensile strength and creep-resistant steels. Suitable for pipelines and pressure vessels with operating temperatures of about 500°C. Also finds applications for the repair of medium strength steel castings. Good impact strength at low temperatures. To be used under the shield of Ar+CO₂.

❖ Characteristics on usage

Low-Alloy copper-coated solid wire with 0.5% Mo Content for welding high strength steels. As the deposition rate is very high, highly efficient welding can be performed. Its bead appearance is excellent

❖ Note on Usage

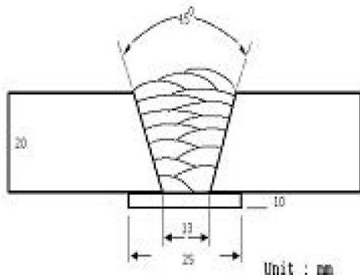
1. Use with CO₂ / Argon +20% CO₂ gas
2. Flow quantity of Shielding gas should be 25ℓ/min. approximately.
3. Use wind screen against wind.
4. Keep distance between tip and base metal 6~15mm for less than 250A, and 15~25mm for more than 250A of welding current.

❖ Package

SM-90D2 (MIG)	Size (mm)	0.8	1.0	1.2	1.6
	Weight	15 KG (D300, BS300)			

**❖ Welding Conditions**

Method by AWS Rules



[JOINT Preparation & Layer Details]

Diameter (mm) : 1.2mm (0.045in)

Shielding Gas : Ar + 20% CO₂

Flow Rate (ℓ/min.) : 20

Amp. / Volt. : 280 / 30

Stick-out (mm) : 20 ~ 25

Pre-Heat : R.T

Interpass temp (°C) : 150 ± 15

Polarity : DC (+)

❖ Mechanical properties of the weld metal

Tensile Test			CVN Impact Test (Joule)			
YS(MPa)	TS(MPa)	EL(%)	20 °C	0 °C	-40 °C	-50 °C
≥ 560	≥ 650	≥ 22	≥ 150	≥ 120	≥ 75	≥ 60

Gas protection : ISO 14175 M21 mixture

❖ Chemical Analysis of the weld metal (wt%)

C %	Mn %	Si %	P %	S %	Cr %	Ni %	Mo %	Cu %
0.08	1.80	0.70	0.01	0.01	-	-	0.50	0.12

❖ Welding Parameters

Preheat and interpass temperature 150°C. PWHT is not required



Current	DC+ Reverse polarity			
Diameter (mm)	0.8	1.0	1.2	1.6
Volts (V)	16 ÷ 28	17 ÷ 32	18 ÷ 34	19 ÷ 38
Intensity (A)	60 ÷ 200	80 ÷ 260	100 ÷ 360	130 ÷ 450