

SM-80G

GAS METAL ARC WELDING CONSUMABLE
FOR WELDING OF 550MPa CLASS
HIGH TENSILE STEEL



❖ *Specification*

AWS A5.28

ER80S-G

❖ *Applications*

Butt and fillet welding of steel structures and using 550kgf/mm₂ or 600 550kgf/mm₂ tensile steels such as construction machinery, building and pressure vessels

❖ *Characteristics on Usage*

SM-80G is a solid wire for flat and horizontal fillet welding position. As the deposition rate is very high, highly efficient welding can be performed.

As the wire contains special elements, its bead appearance is excellent.

❖ *Note on Usage*

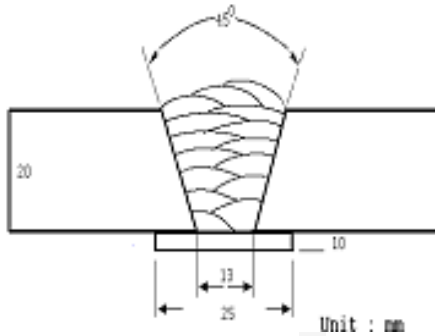
1. Use with CO₂ gas.
2. Flow quantity of shielding gas should be 20ℓ/min. approximately.
3. Use wind screen against wind.
4. Keep distance between tip and base metal 6~15mm for less than 250A, and 15~25mm for more than 250A of welding current.



Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



[Joint Preparation & Layer Details]

Diameter(mm)	: 1.2mm
Shielding Gas	: 100%CO ₂
Flow Rate(ℓ /min.)	: 20
Amp./ Volt.	: 280 / 32
Stick-Out(mm)	: 20~25
Pre-Heat(℃)	: R.T .
Interpass Temp.(℃)	: 150±15
Polarity	: DC(+)

❖ Mechanical Properties of all weld metal

Consumable	Tensile Test			CVN Impact Test (Joule)	
	YS(MPa)	TS(MPa)	EL(%)	-20℃	-40℃
SM-80G	580	660	24.0	120	78
AWS A5.28 ER80S-G	Not Specified	≥ 550	Not Specified	As agreed between supplier and purchaser	

❖ Chemical Analysis of all weld metal(wt%)

Consumable	C	Si	Mn	P	S	Mo
SM-80G	0.08	0.50	1.35	0.012	0.010	0.28
AWS A5.28 ER80S-G	Not Specified					



Proper Welding Condition

❖ Proper Current Range

Consumable	Welding Position	Wire Dia. (mm)		
		1.2mm	1.4mm	1.6mm
SM-80G	Flat	200~350Amp	280~500Amp	300~550Amp
	H-Fillet	200~350Amp	280~500Amp	300~550Amp
	Vertical Up	100~180Amp	-	-



Chemical Composition of Wire

❖ Chemical Composition of Wire (Wt%)

Consumable	C	Si	Mn	P	S	Mo	Ti
SM-80G	0.056	0.81	1.85	0.018	0.007	0.27	0.15
AWS A5.28 ER80S-G	Not Specified						