

SM-1N



❖ Specification

AWS A5.28

ER80S-Ni1

❖ Applications

Oil and gas industry, Offshore industry, Power plant Petro chemical industry and oil pipes.

❖ Characteristics on Usage

- ① As SM-1N contains 1% Ni, its impact value in low temperature is good.
- ② Both its bead appearance and weldability are excellent

❖ Note on Usage

Use 80% Ar + 20%CO₂

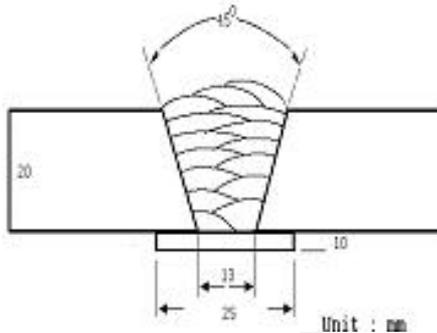
❖ Packing

Dia.	1.2mm (0.045in)	1.4mm (0.052in)
Weight	15, 20, 50, 350kg (33, 44, 110, 772 lbs)	



Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions



[Joint Preparation & Layer Details]

Diameter(mm)	: 1.2mm
Shielding Gas	: 80%Ar+20%CO ₂
Flow Rate(l /min.)	: 20
Amp./ Volt.	: 300 / 32
Pre-Heat(°C)	: R.T.
Interpass Temp.(°C)	: 150 ± 15
Polarity	: DC(+)

❖ Mechanical Properties of All weld metal

Consumable		Tensile Test			CVN Impact test Joule (ft·lbs)	
		Y.S. MPA (ksi)	T.S. MPA (ksi)	EL. (%)	-45°C (-49°F)	-60°C (-76°F)
SM-1N	As welded	500 (73)	585 (85)	28	115 (85)	41 (30)
	620°C x 2hr	423 (62)	525 (76)	32	132 (97)	67 (49)
AWS A5.28 ER80S-Ni1	As-welded	470	550	24	27J @ -45°C	

❖ Chemical Analysis of All weld metal(wt%)

Consumable	Chemical Composition (wt%)									
	C	Si	Mn	P	S	Ni	Cr	Mo	V	Cu
SM-1N	0.108	0.40	0.80	0.008	0.004	0.81	0.05	0.01	0.011	0.19
AWS A5.28 ER80S-Ni1	Not Required									

This information is provided solely for the purpose of confirming product conformance with applicable standards. The serviceability of a product or structure utilizing this type of information is and must be the sole responsibility of the builder/user. Many variables beyond the control of HYUNDAI WELDING CO., LTD. affect the results obtained in applying this type of information. These variables include, but are not limited to, welding procedure, shielding gas, plate chemistry and temperature, weldment design, fabrication methods and service requirements.



Mechanical Properties & Chemical Composition of All Weld Metal

❖ Chemical Analysis of the wire(wt%)

Consumable	Chemical Composition (wt%)									
	C	Si	Mn	P	S	Ni	Cr	Mo	V	Cu
SM-1N	0.102	0.66	1.11	0.020	0.001	0.95	0.046	0.008	0.001	0.14
AWS A5.28 ER80S-Ni1	≤0.12	0.40 ~0.80	≤1.25	≤0.025	≤0.025	0.80 ~1.10	≤0.15	≤0.35	≤0.05	≤0.35

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