

N-1S/CM-1A

※AWS A5.5 E8016-B2

For 1.25%Cr-0.5%Mo Heat Resisting Steel

APPLICATIONS

Welding of piping steel (STPA22, 23, A335-P11, P12), boiler and heat exchanger, tubes (STBA22, 23, A199-T11, A213-T11, T12), rolled steel (SCMV2, 3, A387Gr11, 12), cast steel (A217-WC6) and forged steel (A 182-F11, F12, A336-F12).

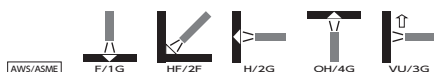
CHARACTERISTICS

N-1S and CM-1A are low hydrogen type electrodes for 1~1.50%Cr-0.5%Mo steel in all positions. The welding metals require postheating at 620~720°C and are able to be used at high temperatures up to 550°C.

GUIDELINES FOR USAGE

1. Electrodes should be redried at 350~400°C for 60 minutes before use.
2. Preheating at 150~300°C and postheating at 620~720°C are required.

WELDING POSITION



■ TYPICAL CHEMICAL COMPOSITION OF WELD METAL (%)

Brand name	C	Si	Mn	P	S	Cr	Mo
N-1S	0.06	0.45	0.60	0.013	0.006	1.26	0.51
CM-1A	0.08	0.31	0.72	0.007	0.006	1.30	0.46

■ TYPICAL MECHANICAL PROPERTIES OF WELD METAL

Brand name	Test Temperature °C	Yield Strength, MPa	Tensile Strength, MPa	Elongation, %	Charpy 2V-notch at -18°C, J	PWHT
N-1S	R.T.	570	660	27	—	690°C×1hr
CM-1A	R.T.	440	565	29	240	690°C×6hr
	485	335	430	23	—	

■ TYPICAL CREEP-RUPTURE STRENGTH OF WELD METAL

Brand name	1,000h Creep-rupture Strength, MPa		PWHT
	550°C	600°C	
N-1S	170	92	720°C×1hr

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

Diameter (mm)	N-1S	2.6	3.2	4.0	5.0	6.0
	CM-1A	—	—			
Length (mm)		300	350	400	400	450
Current A	F	60~90	90~140	140~190	190~240	240~300
	VU, OH	50~80	80~120	110~150	140~180	—

Identification color of N-1S: End-white, secondary-light yellow

Identification color of CM-1A: End-white