

N-2S/CM-2A

*AWS A5.5 E9016-B3

For 2.25%Cr-0.5%Mo Heat Resisting Steel

APPLICATIONS

Welding of piping steel (STPA24, A335-P22), boiler and heat exchanger tubes (STBA24, A199-T22, A213-T22), rolled steel (SCMV4, A387Gr22, 22L), cast steel (A217-WC9) and forged steel (A182-F22, A336-F22).

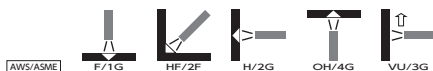
CHARACTERISTICS

N-2S and CM-2A are low hydrogen type electrodes for 2.25%Cr-1%Mo steel in all positions. The welding metals require postheating at 680~730°C and show extremely high creep-rupture strength at 550~600°C. In addition CM-2A is designed for the excellent notch toughness and low temper embrittlement.

GUIDELINES FOR USAGE

1. Electrodes should be redried at 350~400°C for 60 minutes before use.
2. Preheating at 200~300°C and postheating at 680~730°C are required.

WELDING POSITION



TYPICAL CHEMICAL COMPOSITION OF WELD METAL (%)

Brand name	C	Si	Mn	P	S	Cr	Mo
N-2S	0.06	0.57	0.58	0.010	0.006	2.29	1.00
CM-2A	0.09	0.23	0.65	0.007	0.005	2.32	1.06

TYPICAL MECHANICAL PROPERTIES OF WELD METAL

Brand name	Test Temperature °C	Yield Strength, MPa	Tensile Strength, MPa	Elongation, %	Charpy 2V-notch at -40°C, J	PWHT
N-2S	R.T.	590	690	24	—	690°C×1hr
CM-2A	R.T.	485	630	30	SR: 120, SR+SC: 91	690°C×8hr
	454	375	490	17	—	

TYPICAL CREEP-RUPTURE STRENGTH OF WELD METAL

Brand name	1,000h Creep-rupture Strength, MPa	PWHT
	468°C	
N-2S	290	690°C×12hr

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

Diameter (mm)	N-2S	2.6	3.2	4.0	5.0	6.0
	CM-2A	—				
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-red, secondary-light yellow

Identification color of CM-2A: End-yellow