

## Solid Wire for Overlaying on Various Kinds of Mold (MAG Welding)

# N C M - 1 S

### ■ Application

Welding of maraging steel such as MAS1 and YAG300.  
 Overlaying on forging mold, die-cast mold, cold and hot steel shear, clutch cam, die and so on.  
 Welding of special steel.

### ■ Features

1. NCM-1S is MAG welding wire of 18% Ni maraging steel. It has excellent notch toughness and crack resistance. It also shows good machinability.
2. Aging treatment at 450~500°C in 2~3 hours after machining, the deposited metal gains high hardness, about HV500.
3. NCM-1S can use for welding of alloy tool steel and high-tensile steel whose tensile strength exceeds 100kgf/mm<sup>2</sup>.

### ■ Welding Procedures

1. In general, preheating at more than 150°C is necessary. Also preheating at more than 300°C and slow cooling is necessary for special steels.
2. Aging treatment at more than 600°C means over aging.

### ■ Typical Chemical Components of the Wire (%)

C	Si	Mn	Ni	Mo	Co	Al	Ti
≤0.03	≤0.10	≤0.10	18.00~19.0 0	4.50~5.50	8.50~9.50	0.05~0.15	0.50~1.00

### ■ Typical Hardness of the Deposited Metal

Conditions	HV	HRC	HS
As Welded	350~400	35~40	48~55
500°Cx3hr Aging Treatment	450~500	45~49	60~66

### ■ Appropriate Welding Conditions (DC Wire+ with Pulse)

Diameter (mm)	Welding Current (A)	Welding Voltage (V)	Gas Flow (ℓ/min.)
1.2	70~110	20~30	Ar+20%CO <sub>2</sub> 15~25

\*Minimum Quantity: 12.5Kg

Equivalent to electrode for shielded metal arc welding: MH-NCM1  
 Equivalent to electrode for TIG welding: NCM-1T