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Solid Wire for Direct Hardfacing on Cast Iron (MAG Welding)

M H － 1 0 0 C S

■ Application

Overlaying on die face of cast irons mold and bead part.

■ Features

1. MH-100CS is MAG welding solid wire for hardfacing. MH-100CS achieves direct overlaying on cast irons molds. The hardness of the deposited metal is lower than MH-400S.
2. The weld metal is austenitized by absorbing carbon from base metal and shows good notch toughness in the first layer. The weld metal is formed by 12% Cr and mixture of austenite and martensite in the second or upper layer. As a result, the second layer has excellent corrosion and abrasion resistance.
3. Main component of the deposited metal is martensite. Martensite has low thermal expansion. Hence spalling of the weld metal which is caused by welding stress during thick welding is
4. MH-100CS is suitable for overlaying on the place which abrades vigorously and is subjected to intense contact pressure, such as a die face of drawing die and bead part.

■ Welding Procedures

1. Use MAG welding machine with pulse system. Ar+20%CO_2 is recommended for shield gas. Appropriate gas flow is 15～25 ℓ/min.
2. Preheating is not required but preheating and keeping interpass temperature at 100～150℃ for dewatering and degreasing are effective in preventing crack. Too high preheating temperature and interpass temperature increase the risk of crack because over penetration.
3. Keep bead length between 80～120mm and do peening just after each bead.
4. To prevent over dilution of the base metal, use appropriate electric current and keep the arc length as short as possible. Also, weld by straight bead.

■ Typical Chemical Components of the Wire (%)

C	Si	Mn	Cr	Special Elements
≦0.06	≦0.50	≦0.60	11.5～12.5	4.0～6.0

■ Typical Hardness of the Deposited Metal as welded

HV	HRC	HS
330～380	33～39	46～52

■ 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_2 15～25

*Minimum Quantity: 12.5Kg

Equivalent to electrode for shielded metal arc welding: MH-100C
Equivalent to electrode for TIG welding: MH-100CT