

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

M H - 4 0 0 S

■ Application

Overlaying of a wide variety of cast iron molds' die face and bead part.

■ Feature

1. MH-400S is solid wire for MAG welding in hardfacing. MH-400S achieves direct hardfacing of all kinds of cast iron molds.
2. Compare to flux cored wire, fume generation is few. Appearance of bead and welding performance are good.
3. The weld metal is austenitized by absorbing carbon from base metal and shows better ductility and notch toughness in the first layer. The weld metal is formed by mixture of austenite and martensite in the second layer. As a result, the second layer has excellent
4. MH-400S is suitable for the place which abrades vigorously and is subjected to intense contact pressure, such as a die face and bead part.

■ Welding Procedure

1. Please use MAG welding machine with pulse system and Ar+20%CO₂ for the shield gas. The appropriate gas flow rate is 15~25 l/min.
2. Preheating is not required but for dewatering and degreasing, proper preheating and interpass temperature, 100~150°C, welding is very efficient to prevent crack.
Over preheating and too high interpass temperature rises the risk of crack because of increasing of penetration to the base metal.
3. Each bead length should be between 80~120 mm. Every bead should be peening just after each bead is finished.
4. To prevent over dilution of the base metal, please use appropriate electric current and keep the arc length as short as possible. Also, please weld by stringer bead.

■ Typical Chemical Components of the Wire (%)

C	Si	Mn	Ni	Cr	Special Elements
≤0.03	0.5~0.6	1.1~1.4	5.7~6.2	4.2~4.8	1.0~2.0

■ Typical Hardness of the Weld Metal (as welded,FC300 base metal)

Conditions	HV	HRC	HS
1 st Layer	390~430	40~43	53~58
2 nd Layer	440~470	45~47	59~63
3 rd Layer	370~390	38~40	51~53

■ 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: 10.0kg

Equivalent to electrode for shielded metal arc welding: MH-100S,MH-100M

Equivalent to electrode for TIG welding: MH-400T