

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

O M H - 1

- **Application**
Hardfacing and edge preparation for a wide variety of cast iron molds.
- **Feature**

 1. OMH-1 is solid wire for MAG welding in direct hardfacing. OMH-1 achieves direct hardfacing of all kinds of cast irons press mold.
 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. Triple pass two layers welding on C3~C5 groove achieves the most stable hardness, HRC55~60, for edge preparation.
- **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. 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.
 4. Each bead length should be between 80~120 mm. Every bead should be peening just after each bead is finished.
 5. The weld metal of OMH-1 gains hardness by absorbing carbon from the base metal. Hence, multilayer welding which is more than 3 layers should be avoided.

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

C	Si	Mn	Special Elements
0.25~0.35	0.6~0.8	3.3~3.9	5.0~7.0

■ **Typical Hardness of the Weld Metal (as welded, FC300 base metal, triple pass two layers welding on C5 groove)**

Conditions	HV	HRC	HS
1 st Layer	470~600	47~55	63~74
2 nd Layer	600~700	55~60	74~81

■ **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-1
 Equivalent to electrode for TIG welding: OMH-1T