

## Solid Wire on Cast Irons (MAG Welding)

# G N — 3 1 1 S

■ Application

Suitable for a wide variety of cast irons which requires hard chromium plating. Also suitable for underlaying of hardfacing, overlaying of cast iron mold, repairing and joining a wide variety of cast irons.

■ Feature

1. To improve the plating performance after welding, Nickel content is held below 40%
2. Ni content in the deposited metal is low. Hence, compare to regular Fe-Ni type consumables, GN-311S is more suitable for overlaying on cast irons which require hardness. Also, surface treatment, such as hard chrome plating is easy.
3. The mechanical property and crack resistance of the deposited metal is excellent.

■ Welding Procedure

1. Please use MAG welding machine with pulse system.
2. In general, preheating and postheating are not required but depending upon the type, shape or size of the base metal, preheating at 100~200°C causes good welding result.
3. To prevent crack at the welded junction between the base metal and the weld metal, shallow penetration in first layer using low electric current or using regular Fe-55%Ni is recommended.

■ Chemical Component of Wire (%)

C	Si	Mn	P	S	Fe	Ni	Others
0.05	0.50	2.90	0.004	0.003	Remains	39.7	1.53

■ Typical Mechanical Properties of the Deposited Metal as welded

Tensile Strength
N/mm <sup>2</sup> (Kgf/mm <sup>2</sup> )
635 (64.8)

■ Typical Hardness of the Deposited Metal as welded

HV	HRC	HS
240~270	20~25	34~38

■ Appropriate Welding Condition (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: GN-311

Equivalent to electrode for TIG welding: GN-311T