

Covered Electrode on Cast Irons

G N — 3 1 1

- **Standard** JIS —
 AWS —
- **Covering** Graphite type
- **Tip Color** Yellow

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

- **Feature**
 - GN-311 is the graphite type covered electrode using 36% Ni-Fe clad core wire. GN-311 does not overheat unlike regular alloyed core wire.
 - To improve the plating performance after welding, Nickel content is held below 40%.
 - 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.
 - The mechanical property and crack resistance of the deposited metal is excellent.

- **Welding Procedure**
 - 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.
 - 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.
 - The electrode should be re-dried 30~60 minutes at 100~150°C before use.

■ **Typical Chemical Component of Deposited Metal (%)**

C	Si	Mn	P	S	Fe	Ni
1.24	0.52	0.57	0.014	0.003	Remain	38.75

■ **Typical Mechanical Properties of the Deposited Metal as welded**

Tensile Strength N/mm ² (Kgf/mm ²)
635 (64.8)

■ **Typical Hardness of the Deposited Metal as welded**

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

■ **Appropriate Welding Current (AC or DCEP)**

Diameter (mm)	2.6	3.2	4.0
Length (mm)	300	350	350
Current (A)	50~80	60~100	90~140
Minimum Quantity (Kg)	4.0	5.0	5.0

Equivalent to wire for MAG welding: GN-311S

Equivalent to electrode for TIG welding: GN-311T