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Solid Wire on Cast Irons (MAG Welding)

G N — 1 0 0 S

■ Standard JIS YNi-1
AWS ERNi-1

■ Application

Joining and repairing various kinds of cast irons

Welding pure nickel and dissimilar metals. Suitable for corrosion-resistant lining.

■ Feature

1. GN-100S is pure nickel solid wire for MAG welding. This contains appropriate amount of Al and Ti.
2. In the cast iron welding, the welded junction does not become too hard as a result it shows excellent machinability.
3. GN-100S has good workability and causes very few welding defects, such as blowhole and crack. It also shows excellent mechanical property and excellent results to X-ray soundness.
4. Expansion or shrinking of the deposited metal is very limited as a result it exhibits excellent crack resistance.
5. The deposited metal has excellent corrosion resistance against alkaline, such as caustic soda.

■ Welding Procedure

1. Please use MAG welding machine with pulse system.
2. In general, preheating is not required but in case the base metal has a high risk of crack, preheating the base metal at 100～200℃ is suggested.
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 is recommended.
4. To avoid hot crack, interpass temperature should keep low.

■ Chemical Component of Wire (%)

C	Si	Mn	Ni	Fe	Al	Ti
≦0.15	≦0.75	≦1.00	≧93.0	≦1.00	≦1.5	2.0～3.5

■ Typical Mechanical Properties of the Deposited Metal as welded

0.2%Offset Strength N/mm^2(Kgf/mm^2)	Tensile Strength N/mm^2(Kgf/mm^2)	Elongation %
250 (25.5)	455 (46.4)	40

■ Typical Hardness of the Deposited Metal as welded

HV	HRB	HS
150～200	78～91	22～29

■ 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	Pure Ar or Ar+2%O_2 15～25

*Minimum Quantity: 12.5kg

Equivalent to electrode for shielded metal arc welding: GRICAST1, GN-100

Equivalent to electrode for TIG welding: GN-100T