

Solid Wire on Cast Irons (MAG Welding)

G N - 5 5 S N

■ Application

Joint welding and repair welding of cavities and cracks in a wide variety of cast irons. GN-55SN has excellent weldability and its deposited metal has superior mechanical properties. Hence GN-55SN is suitable for the welding which require strength such as a high strength cast iron and an alloyed cast iron or dissimilar metals welding, such as a mild steel and a cast iron.

■ Feature

1. GN-55SN is the solid wire for MAG welding on cast irons. The chemical compound of its deposited metal is 57% Ni, Fe and special elements in descending order of content.
2. The deposited metal has excellent mechanical properties and shows high reliability at a pressure containing part and a thick part.
3. GN-55SN has excellent workability. Also, it causes very few welding defects, such as blowhole and crack hence it shows excellent X-ray soundness. The heat-affected zone does not become too hard hence machining of this part is easy.
4. GN-55SN has excellent operating efficiency. It is 3 times more efficient than shielded metal arc welding.

■ 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 is recommended.

■ Chemical Component of Wire (%)

C	Si	Mn	P	S	Fe	Ni	Special Elements
≤0.05	0.40~0.60	3.40~4.60	≤0.030	≤0.020	Remains	56.00~57.00	2.00~3.00

■ Typical Mechanical Properties of the Deposited Metal as welded

Tensile Strength N/mm ² (Kgf/mm ²)	Elongation %	Impact Value(2V Notch, RT) J(Kgf·m)
600 (61.2)	35	130 (13.5)

■ Typical Hardness of the Deposited Metal as welded

HV	HRB	HS
200~260	92~100	29~37

■ 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 ₂ 15~25

*Minimum Quantity: 12.5kg

Equivalent to electrode for shielded metal arc welding: GRICAST31, GN-55P

Equivalent to electrode for TIG welding: GN-55T