

Covered Electrode on Cast Irons

G R I C A S T 3 1

- Standard JIS E C NiFe-CI
 AWS ENiFe-CI
- Covering Graphite Type
- Tip Color Red
- Application

Joint welding and repair welding of cavities and cracks in a wide variety of cast irons. GRICAST31 has excellent weldability and its deposited metal has superior mechanical properties. Hence GRICAST31 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. GRICAST31 is the covered electrode for repairing cast irons by cold welding and has graphite type coating flux on Fe-Ni clad core wire. This special coating prevent over heating and achieves stable bead until the end of Also, CRICAST31 achieves welding in all position. These characteristics provide efficient weldability and economic efficiency.
2. GRICAST31 has the most advanced blowhole resistance in Fe-Ni type electrodes. The deposited metal does not have blowhole even in multilayer welding.
3. The deposited metal has excellent mechanical properties and shows high reliability at a pressure containing part and a thick part.
4. The heat-affected zone does not become too hard and the expansion coefficient of the deposited metal is close to a cast iron. As a result, GRICAST31 shows excellent crack resistance.
5. The color tone of the deposited metal is white.

■ Welding Procedure

1. 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°C is recommended.
2. 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.
3. The arc length should be as short as possible. The bead length should be 30~50mm. Just after welding, peening is required until the ripple pattern of the bead is removed.
4. The electrode should be re-dried 30~60 minutes at 100~150°C before use.

■ Typical Chemical Composition of the Deposited Metal (%)

C	Si	Mn	Fe	Ni
0.8	0.4	0.3	Remains	56

■ Typical Mechanical Properties and Hardness of the Deposited Metal as welded

Tensile Strength N/mm ² (Kgf/mm ²)	Hardness		
	HV	HRB	HS
475 (48.5)	180~210	88~93	26~30

■ Appropriate Welding Current (AC or DCEP)

Diameter (mm)	2.5	3.2	4.0	5.0
Length (mm)	300	350	400	350
Current (A)	50~70	70~100	100~150	140~190
Minimum Quantity (Kg)	3.8	4.8	5.4	5.0

Equivalent to wire for MAG welding: GN-55SN
 Equivalent to electrode for TIG welding: GN-55T