

International Standards	DIN 8573	E NiFe-1 – BG 11
	AWS A 5.15	E NiFe-CI

## Approvals

### Typical applications and characteristics

Basic-graphite special coated electrode with a ferro-nickel core. Suitable for joining all types of grey cast iron and also for joining cast iron with steel, but especially for nodular cast iron.

The colour of the deposit is very similar to the base material, and corrosion will be identical to the base material later on.

This electrode excels by very high crack-resistance and high tensile-strength of the weld metal. Even in refined zones the seam is still machinable.

**Operating temperature** same as base material

### Welding instructions

Thoroughly clean the surface of the work-piece make sure it is exempt from grease (previous grinding). When welding cast iron, heat input should as low as possible (low amperage). The bead must not be wider than twice the core wire diameter and not be longer than ten times the core wire diameter. To limit internal stress of the base metal, hammering of the beads is recommended after each pass.

In some cases preheating to 300°C and slow cooling is recommended.

"CARBO NiFe 31" should be welded on DC + when quiet weld metal flow and good penetration are essential.

Welding on alternate current offers highest crack-resistance. The constant change of polarity favours a flat, smooth seam which is important for difficultly weldable castings.

Special hint:

The bimetallic core gives very good resistance to overheating and high melt-off efficiency. The electrode can thus melt-off on its total length.

### Mechanical properties of all-weld metal (typical values)

Tensile strength $R_m$ N/mm <sup>2</sup>	Yield strength $R_{p0,2}$ N/mm <sup>2</sup>	Elongation $A_5$ %	Hardness HB
500	350	10	approx. 170

### Weld metal analysis (typical, wt. %)

C	Si	Mn	Ni	Fe
1,1	1,2	0,95	54	42

**Current** = + / - , ~ / 50 V

**Welding positions** PA, PB, PC, PD, PE, PF, PG

**Rebaking** 1 h, 120 °C +/- 10 °C ( if required )

Dia./Length	Amperage (A)	Pcs./packet	Pcs./carton	kg / 1000	kg / packet	kg / carton
2,5 x 300	60 - 80	314	1258	15,9	5,0	20,0
3,2 x 350	70 - 100	160	639	31,3	5,0	20,0
4,0 x 350	95 - 130	105	422	47,4	5,0	20,0
5,0 x 450	140 - 160	63	252	95,2	6,0	24,0

Rev. 000

Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. Carbo-Weld may change the characteristics of its products without notice. We recommend the applier to check our products for their special application autonomously.