

Electrodes for Cast Iron





AMA 1012G

Standards: AWS/ASME SFA - 5.15

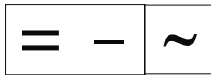
EST

Application / Properties: Half-basic type electrode with mild steel core for welding cast iron. Weld deposit is non-machinable, applicable as a whole for cast iron parts, repair of casting defects, joining of cast iron to steel arc.

Suitable for : Cast iron parts, repair of casting defects, joining of cast iron to steels.

Mechanical Properties of all-weld metal : (typical values)

Tensile strength of the weld deposit is in equal to base material but almost higher



Amperage:	
3.25 Ø	4.0 Ø
90-120	110-140



Caution : The electrode must be welded with short arc as much as possible. But notice that it does not contact with the work piece, for it will stick. The following points must be observed when welding with this electrode:

1. The work piece must be clean from oil or there impurities
2. Only beads of 25 to 35 mm length should be welded
3. Just after welding, welding deposit should be pinned in order to balance the internal stress
4. The work piece should never be than hand burning temperature.



AMA 1094 Ni

Standards: DIN 8573 E Ni BG - 22
 AWS/ASME SFA - 5.15 E Ni - CI

Application / Properties: Electrode having a pure nickel core wire, designed for the welding of cast iron without or with low preheat (up to 300 C max). For repairing cracked or worn casting or joining cast iron parts to components made of steel, copper and nickel materials. Easy arc striking, stable arc, finely-rippled bead surface. Weld metal is machinable. Weld short beads (approx. 30 to 50 mm long). For reducing weld residual stresses hammer peen welds before cooling.

Weld metal analysis in %(typical values):

C (Graphite)	Ni	Fe
0.5	Base	2

**Mechanical Properties of all-weld metal
 (Single values are typical values) :**

0.2% Proof stress (N/mm ²)	Tensile Strength (N/mm ²)	Elongation A5 (%)	Brinell-hardness HB 10/3000
200	400	5	140



Amperage:		
2.5 Ø	3.25 Ø	4.0 Ø
50-80	80-110	110-150



Materials:

Cast iron with lamellar graphite, white and black heart malleable cast iron, nodular cast iron.



AMA 1094 MO

Standards: DIN 8573 E NiCu BG 22
AWS/ASME SFA - 5.15 E NiCu - B

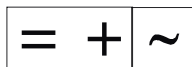
Application / Properties: Electrode having a pure nickel core wire, designed for the welding of cast iron without or with low preheat (up to 300 C max). If possible, iron admixture should be kept low, thus using it preferably for filler and cover passes or for filling metal closely matches colour or base metal.

Weld metal analysis in %(typical values):

C (Graphite)	Ni	Cu	Fe
0.5	Base	30	4

Mechanical Properties of all-weld metal
(Single values are typical values) :

0.2% Proof stress (N/mm ²)	Tensile Strength (N/mm ²)	Elongation A5 (%)	Brinell-hardness HB 10/3000
220	400	15	150



Amperage:		
2.5 Ø	3.25 Ø	4.0 Ø
50-80	80-110	110-150



Materials:

Cast iron with lamellar graphite, white and black heart malleable cast iron, nodular cast iron.



AMA 1094 NiFe

Standards: DIN 8573 E NiFe - 1 BG - 22
 AWS/ASME SFA - 5.15 E NiFe - CI

Application / Properties: Electrode having a pure nickel core wire, designed for the welding of cast iron without or with low preheat (up to 300 C max). The weld metal has a low coefficient thermal expansion and therefore little shrinkage. It feature higher strength properties than pure nickel weld metal and therefore preferred for joining nodular cast iron, white and black heart malleable cat iron and austenitic nodular cast iron or for joining these materials to components made of steel, copper and nickel materials. Easy arc striking, stable arc, finely ripped bead surface, weld metal is machinable. Weld short beads

Weld metal analysis in %(typical values):

C (Graphite)	Ni	Fe
0.5	53	Remainder

Mechanical Properties of all-weld metal
 (Single values are typical values) :

0.02% Proof stress (N/mm ²)	Tensile Strength (N/mm ²)	Elongation A5 (%)	Brinell-hardness HB 10/3000
300	450	10	170



Amperage:				
2.5 Ø	3.25 Ø	4.0 Ø	5.0 Ø	6.0 Ø
70-90	100-135	140-180	190-240	250-300



Materials:

Excavator parts, bucket edges, buckets teethes, drilling 1 bits, coal planes, conveyor screws, polygon edges, crusher jaws and cones.

Rebaking : required at 300C to 350C for 2hrs.