

# **Electrodes for Non Ferrous Metals**





## AMA 1075 SP

**Standards:** DIN 1732 EL - AlSi 5  
No. of Material 3.2245  
AWS/ASME SFA - 5.3 E - 4043

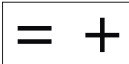
**Application / Properties:** Electrode with special covering for the welding of aluminum silicon alloys and for joining dissimilar aluminum alloys. The electrode should be held perpendicularly to the workpiece and a short arc length maintained. Plates thicker than 10 mm and larger workpieces require preheating in the range of 150 to 250 C. Since slag residues arc corrosive, the must be completely removed from the welded bead. Electrode serves well as consumable in oxyacetylene welding. The covering being hygroscopic, the electrode must be stored in an absolutely dry location, or redried if required.

**Weld metal analysis in %(typical values):**

Al	Si	Fe
Base	5	0.3

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

0.02% Proof stress (N/mm <sup>2</sup> )	Tensile Strength (N/mm <sup>2</sup> )	Elongation A5 (%)
90	160	15



Amperage:		
2.5 Ø	3.25 Ø	4.0 Ø
60-90	80-110	110-150



**Materials:**

AlMgSi and AlMg-alloys up to 2.5% Mg, AlMnCu, AlSi cast cast alloys.

**Rebaking :** 2 at 110 to 120 C .



## AMA 1075 A

**Standards:** DIN 1732 EL - Al 99.5  
No. of Material 3.0259  
AWS/ASME SFA - 5.3 E 1100

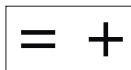
**Application / Properties:** Electrode with special covering for the welding of aluminum silicon alloys and for joining dissimilar aluminum alloys. The electrode should be held perpendicularly to the workpiece and a short arc length maintained. Plates thicker than 10 mm and larger workpieces require preheating in the range of 150 to 250 C. Since slag residues arc corrosive, they must be completely removed from the welded bead. Electrode serves well as consumable in oxyacetylene welding. The covering being hygroscopic, the electrode must be stored in an absolutely dry location, or redried if required.

**Weld metal analysis in %(typical values):**

Al	Others
min.99.5	max.0.5

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

0.02% Proof stress (N/mm <sup>2</sup> )	Tensile Strength (N/mm <sup>2</sup> )	Elongation A5 (%)
30	30	30



Amperage:		
2.5 Ø	3.25 Ø	4.0 Ø
60-90	80-110	110-150



**Materials:**

Commercially pure aluminum e.g. Al99.5 to Al 99, DIN 1721 Aluminum alloys, such as AL 99.9 Mg 0.5 AlRMg 0.5, AlRMg 0.5, DIN 1725.

**Rebaking :** 2 at 110 to 120 C .



## AMA 1328 G

**Standards:** DIN 1733                      S - Cu Sn 7  
AWS/ASME SFA - 5.6                    E Cu Sn - C

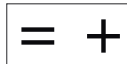
**Application / Properties:** Thin-bronze electrode for joining welding and hardfacing on copper and copper alloys. Also suitable, for hardfacing of copper on steels, cast steel and grey cast iron. Particularly suitable for surfacing welds on bronze bearing in machine-building. Smooth running and good weldability.

### Weld metal analysis in %(typical values):

Cu	Sn	Mn	P
91	7.5	0.4	0.3

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

Tensile Strength (N/mm <sup>2</sup> )	Vickers hardness HV 30
Approx.300-35	Approx70-100



Amperage:			
2.0 Ø	2.5 Ø	3.25 Ø	4.0 Ø
40-70	70-120	130-180	160-200



**Materials:** Thin-bronze materials, red brass and copper. Hardfacing of copper on steel, cast steel and grey cast iron.

### Caution:

The lowest possible current must be set when applying the root pass during hard surfacing of ferrous materials, so as to reduce the possibility of impurities in the bronze weld metal through the melting of the base material to a minimum. The current setting should be slightly increased for the subsequent passes. The arc has to be applied in circular fashion in order to ensure slow cooling process of the weld pool, i.e, the arc must repeatedly recover the weld pool. Preheating the workpiece can be of advantage. Joint welding is carried out with high currents. The included angle should be 90C if possible. When butt welding ensure adequate air gap. Due to the good heat conductivity of copper and its alloys. The weld zone must be preheated to 100-300C depending on the degree of heat dissipation.

**Important :** use dry electrode only. Redring 300°C / 2h.