

Aluminum electrode

Classification

AWS A5.3 :E3003*
 ISO 18273 :Al 3103 (AlMn1)
 * Deviation:see remarks

Temperature Range

Pressure parts
 Oxidation resistance

General description

Aluminium electrode.
 Especially for welding forged and cast aluminium-magnesium alloys and aluminium-manganese alloys.
 Good weldability, no porosity.

Welding positions



ISO/ASME PA/1G PB/2F PF/3G up

Current type

DC electr. +

Chemical composition (w%), typical, all weld metal

Al	Mg	Fe	Cu	Mn	Zn	Others
rest	0.15 max	0.6 max	0.02 max	0.9-1.2	0.09 max	0.15 max

Mechanical properties, all weld metal

	Condition	0.2% Yield Strength (N/mm ²)	Tensile Strength (N/mm ²)	Elongation (%)	Hardness	
					HB	
Typical values after welding	AW	40	110	20		

Packaging, available sizes and identification

	Diameter (mm)	2.5	3.2	4.0
	Length (mm)	350	350	350
Unit:	Pieces / unit (nominal)	222	146	98
Box	Net weight/unit (kg)	2.0	2.0	2.0

Identification Imprint: Eleal® 3003 Tip colour: none

Eleal® 3003 : rev.EN 20

Materials to be welded

Type	W.Nr.
AlMn1	3.0515
AlMn1Mg1	3.0526
AlMg1	3.3315

Calculation data

Size Diam.x length (mm)	Current range type (A)	Curren t	Arc time - per electrode at max.current - (s)*	Energy E (kJ)	Dep.rate H (kg/h)	Weight/ 1000 pcs. (kg)	Electrodes/ kg weldmetal (pcs)	kg Electrodes/ kg weldmetal (1/N)
2.5x350	60-90	DC+				9.2		
3.2x350	80-110	DC+				14.0		
4.0x350	100-140	DC+				20.4		

* stub end = 35 mm

Welding parameters,optimum fill passes

Welding positions Diameter (mm)	PA/1G Current (A)	PB/2F	PC/2G	PF/3G up	PE/4G	PF/5G up
2.5	80	80		75		
3.2	100	100		95		
4.0	130	130		125		

Remarks

Deviations:chemical composition::

Cu = max 0.02%

AWS: Cu = 0.05 – 0.20%

Mn = 0.9-1.2%

AWS: Mn = 1.0 – 1.5%

Application advice

If the thickness is more than 10 mm,it is advisable to preheat at 150 - 250°C