



2033 LEAD FREE & 6026 LEAD FREE *by* Eural

Aluminium Alloys

REACH

ELV

RoHS

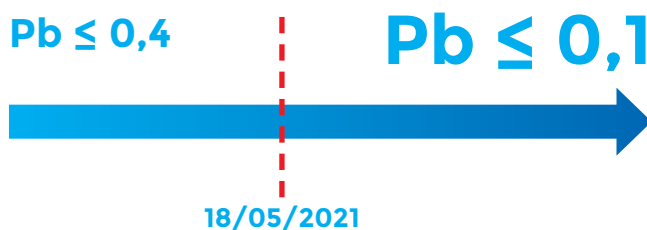
COMPLIANTS

$Pb \leq 0,1$

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RoHS

(Reduction of Hazardous Substances)



The last RoHS directive 2018/740/EU has been recently published announcing that Annex 6(b)-II "Lead as an alloying element in aluminium containing up to 0,4% by weight" **EXPIRES** on 18/05/2021. The new limit for lead will be up to 0,1%.

ECHA (European Chemical Agency) has updated the Candidate List of substances of very high concern (REACH), including lead metal. This consists in a duty to communicate along the supply chain the presence of lead in aluminium alloys when its concentration is $\geq 0,1\%$ by weight.

LEAD

2033 LEAD FREE & 6026 LEAD FREE

2033 by EURAL LEAD FREE



- Easy machining with any tool
- Excellent chip forming performance (machinability)
- Longer tool life
- High mechanical properties ($R_m \geq 370$ MPa)
- Excellent Surface finishing after turning
- RoHS compliant $Pb \leq 0,1\%$ (2018/740/EU)

6026 by EURAL LEAD FREE



- Excellent chip forming performance (machinability)
- Good attitude to anodizing
- High mechanical properties ($R_m \geq 370$ MPa)
- Excellent Surface finishing after turning
- Good corrosion resistance
- RoHS compliant $Pb \leq 0,1\%$ (2018/740/EU)

FREE

2033_{by EURAL} LEAD FREE

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This new alloy is the result of long and accurate work by EURAL's R & D.

2033 LEAD FREE by EURAL is an alloy of multiple potential application; it gives an excellent machinability thanks to a very thin chip forming, high mechanical properties ($R_m \geq 370$ MPa), excellent surface finishing after turning, better anodizing and weldability attitude compared to alloys as 2011, 2007, 2030.

2033 LEAD FREE by EURAL is also suggested as alternative to alloy 2011 after latest RoHS restrictions ($Pb \leq 0,1\%$).

REACH recently included lead in SVHC list as toxic element for human health and subject to specific authorization when it is more than 0,1%.

That makes alloy 2033 LEAD FREE by EURAL a good option.

MAIN APPLICATIONS

Automotive industry, electric and electronic industry, precision machining, defense, forging, screws, bolts, nuts, threaded parts, etc.

2033 LEAD FREE by EURAL does not contain tin (Sn) which, as it has been proved, causes weakness and cracking of machined parts when submitted to high stress, at low or high temperatures ($< 13^\circ\text{C}$ or $> 160^\circ\text{C}$). Tin, due to its brittle nature, has the dangerous tendency to suddenly break without significant previous deformation (strain).

Chemical composition

Si	Fe	Cu	Mn	Mg	Cr
0,10 ÷ 1,20	$\leq 0,70$	2,20 ÷ 2,70	0,4 ÷ 1,00	0,2 ÷ 0,60	$\leq 0,15$

2033_{by EURAL} LEAD FREE F37

Minimum mechanical properties

	Temper	Diam. mm	Rm MPa	Rp0,2 MPa	A%	HBW Typical
Drawn	T3	≤ 30	370	240	7	95
	T3	$30 < D \leq 80$	340	220	7	95
	T351	≤ 80	370	240	5	95
	T8	≤ 80	370	270	8	95
Extruded	T6	≤ 80	370	250	8	95
	T6	$80 < D \leq 250$	340	220	8	95



REACH

ELV

RoHS

COMPLIANTS

Ni	Zn	Ti	Bi	Others	Al
≤ 0,15	≤ 0,50	≤ 0,10	0,05 ÷ 0,80	0,05 each 0,15 tot.	Rem.

Production program

Unit: mm	●	■	■	◆
Drawn	5 ÷ 76,2	10 ÷ 65	Thick. 12 ÷ 55	10 ÷ 63,5
Extruded	30 ÷ 254	30 ÷ 165	Thick. 30 ÷ 127	-

Properties	T3/T6	T8
Machinability		
Protective anodizing		
Decorative anodizing		
Hard anodizing		
Resistance to atmospheric corrosion		
Resistance to marine corrosion		
MIG-TIG weldability		
At resistance weldability		
Brazing weldability		
Plastic formability when cold		
Plastic formability when hot		

Legend



FREE CUTTING
Aluminium alloy



Colour code
EU pink



6026_{by EURAL} LEAD FREE

EURAL
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This innovative alloy has been conceived and developed in Eural Gnutti SpA's R&D laboratories, in order to meet the most recent standards for the protection of the environment.

6026 LEAD FREE by EURAL gives an excellent chip forming performance; it has good corrosion resistance, medium-high mechanical properties ($R_m \geq 370$ MPa), excellent surface finishing after turning, good suitability for decorative and industrial hard anodizing. Good also for hot forging purposes.

6026 LEAD FREE by EURAL is the best option after latest RoHS and REACH restrictions on lead ($Pb \leq 0,1\%$)

MAIN APPLICATIONS

Automotive industry, electric and electronic industry, precision machining, forging, etc.

6026 LEAD FREE by EURAL does not contain tin (Sn) which, as it has been proved, causes weakness and cracking of machined parts when submitted to high stress, at low or high temperatures ($< 13^\circ\text{C}$ or $> 160^\circ\text{C}$). Tin, due to its brittle nature, has the dangerous tendency to suddenly break without significant previous deformation (strain).

Chemical composition

Si	Fe	Cu	Mn	Mg	Cr
0,6 ÷ 1,40	$\leq 0,70$	0,20 ÷ 0,50	0,2 ÷ 1,00	0,6 ÷ 1,20	$\leq 0,30$

6026_{by EURAL} LEAD FREE F37

Minimum mechanical properties

	Temper	Diam. mm	R _m MPa	R _{p0,2} MPa	A%	HBW Typical
Drawn	T6	≤ 80	370	300	8	95
	T8	≤ 80	345	315	4	95
	T9	≤ 80	360	330	4	95
Extruded	T6	≤ 140	370	300	8	95
	T6	$140 < D \leq 200$	340	250	8	90
	T6	$200 < D \leq 250$	300	200	8	90



REACH

ELV

RoHS

COMPLIANTS

Zn	Ti	Sn	Pb	Bi	Others	Al
≤ 0,30	≤ 0,20	≤ 0,05	0,05* (traces)	0,50 ÷ 1,50	0,05 each 0,15 tot.	Rem.

*6026 is registered with Pb ≤0,40

Production program

Unit: mm	●	■	■	◆
Drawn	6 ÷ 76,6	10 ÷ 65	Thick. 12 ÷ 55	10 ÷ 63,5
Extruded	30 ÷ 254	30 ÷ 165	Thick. 30 ÷ 157	-

Properties	T6	T8/T9
Machinability	Excellent	Excellent
Protective anodizing	Good	Good
Decorative anodizing	Good	Good
Hard anodizing	Good	Good
Resistance to atmospheric corrosion	Good	Good
Resistance to marine corrosion	Acceptable	Acceptable
MIG-TIG weldability	Good	Good
At resistance weldability	Good	Good
Brazing weldability	Acceptable	Acceptable
Plastic formability when cold	Acceptable	Acceptable
Plastic formability when hot	Good	Good

Legend



FREE CUTTING
Aluminium alloy



Colour code
EU white





Airports :
Milano Malpensa
Milano Linate
Bergamo Orio al Serio



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EURAL GNUTTI S.p.A. is certified:

**ISO 9001:2015 - IATF 16949:2016
ISO 14001:2015 - prEN 9100:2016
AS 9100 D - JIS Q 9100:2016 - PED**

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