

# 6026<sup>LF</sup> by EURAL LEAD FREE



According to  
RoHS II, ELV, REACH directives

## Application fields

**6026<sup>LF</sup> LEAD FREE by EURAL** is extremely versatile due to its medium-high mechanical properties, good attitude to anodizing, good weldability, good attitude to forging and good corrosion resistance.

**6026<sup>LF</sup> LEAD FREE by EURAL** is suitable for components used in several industries such as automotive, electric and electronics, valves, oleo-hydraulic, pneumatics, furniture & lighting.

## High machinability

**6026<sup>LF</sup> LEAD FREE by EURAL** is particularly suitable for being machined on high speed automatic lathes thanks to its thin chip formation.



## Production program

**6026<sup>LF</sup> LEAD FREE by EURAL** is available in drawn or extruded conditions.

Drawn round bars Ø 6 – 76,2mm

Temper T6, T8 and T9.

Extruded round bars Ø 30 – 254mm

Temper T6.

Square, rectangular, hexagonal bars are available.

A wide range of drawn bars are also available in h9 tolerance.



## FREE CUTTING Aluminium alloy

## Green choice

For many years RoHS II regulations permit, with an exception, a maximum lead content in aluminium alloys up to 0,4% by weight. Such limit is under discussion for a further reduction.

REACH recently included lead in SVHC list as highly toxic element for human health.

**6026<sup>LF</sup> LEAD FREE by EURAL** is ready in anticipation to any possible future changes because it is free of lead.



Alloy with high recycled aluminium content.

## No tin

In many 6000 series alloys lead (Pb) has been replaced by tin (Sn) which, as it has been proved, can cause weakness and cracking of the machined parts when submitted to stress and high temperature (>160°C).

Tin, due to its brittle nature, has the dangerous tendency to break without significant previous deformation (strain). **6026<sup>LF</sup> LEAD FREE by EURAL** does not contain tin.



## Alternative to:

**6026<sup>LF</sup> LEAD FREE by EURAL** is the best alternative to several aluminium alloys such as 2007, 2011, 2015, 2028, 2030, 2044, 6012, 6012A, 6020, 6021, 6023, 6028, 6033, 6040, 6041, 6042, 6061, 6065, 6082, 6262, 6064A, 6262A, 6351, and 7020.

**6026<sup>LF</sup> LEAD FREE by EURAL** is an excellent replacement of brass due to its excellent machinability, good attitude to forging, and medium-high mechanical properties. Moreover, since **6026<sup>LF</sup>** has a specific gravity of 1/3 compared to brass, it results extremely convenient costwise.

# EURAL

GNUTTI S.p.A.

## Birth of 6026<sup>LF</sup>

**6026<sup>LF</sup> LEAD FREE by EURAL** is an innovative alloy designed and developed by Eural Gnutti S.p.A. R&D laboratories in order to meet the strictest requirements in critical automotive applications such as brake systems.

Today **6026<sup>LF</sup> LEAD FREE by EURAL** is approved for several different business applications.

## Ultrasonic tested billets

All semi-finished products in **6026<sup>LF</sup> LEAD FREE by EURAL** are made of 100% ultrasonic tested billets according to **SAE AMS-STD-2154 class A**.



## Compatibility in drawings

Original alloy 6026 was born in 2002 and has been registered by Eural to the Aluminum Association and to EN standards with a lead content of Pb ≤ 0,4% (0 - 0,4%).

Therefore, **6026<sup>LF</sup> LEAD FREE by EURAL** does not need any variations in drawings where 6026 is already indicated.

Lead (Pb) and tin (Sn) can be present as traces within the limits of 0,05%, as any other chemical element, as prescribed by international regulations.



Colour code  
EU white



### PRODUCTION PROGRAM

Unit: mm	●	■	■	◆
Drawn	6 ÷ 76,2	10 ÷ 65	Spess. 12 ÷ 55	10 ÷ 63,5
Extruded	30 ÷ 254	50 ÷ 165	Spess. 30 ÷ 157	-

**According to EU directives:**  
2000/53/EU (ELV) - 2011/65/EU (RoHS II)  
Ready to imminent restrictions on lead content because LEAD FREE



### PRESENTATION

Alloy 6026<sup>LF</sup> LEAD FREE is the best option for machinability since recent limitations by RoHS (2018/740/EU) and REACH on lead content allowance ( $Pb \leq 0,1\%$ ). It is particularly suitable for being machined on high-speed automatic lathes. 6026<sup>LF</sup> LEAD FREE offers:

- Excellent chip forming performance
- Good attitude to anodizing, big thickness also
- Good corrosion resistance
- Excellent surface finishing (low roughness)
- Good for forging

It is definitely a better solution than aluminium+Tin (Sn) alloys because free from any limitations on possible application (final parts subjected to high stress, low or high temperatures). It can replace 2007, 2011, 2015, 2028, 2030, 2044, 6012, 6012A, 6020, 6021, 6023, 6028, 6033, 6040, 6041, 6042, 6061, 6065, 6082, 6262, 6064A, 6262A, 6351, 7020 alloys.

**Main applications:** automotive industry, electric and electronic industry, hot forging, screws, bolts, nuts, threaded parts, furniture & lighting.

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	Good	Good
MIG-TIG weldability	Good	Good
Resistance weldability	Good	Good
Brazing weldability	Good	Good
Plastic formability when cold	Good	Good
Plastic formability when hot	Good	Good

### Legend



Samples of finished products made of Eural bars



Chemical composition	
Si	0,60 ÷ 1,40
Fe	≤ 0,70
Cu	0,20 ÷ 0,50
Mn	0,20 ÷ 1,00
Mg	0,60 ÷ 1,20
Cr	≤ 0,30
Ni	≤ 0,30
Zn	≤ 0,30
Ti	≤ 0,20
Sn	≤ 0,05
Pb	≤ 0,05* (traces)
Bi	0,50 ÷ 1,50
Others	Each 0,05 Total 0,15
Al	Remainder

Physical properties	
Density	$\frac{Kg}{dm^3}$ 2,72
Modulus of elasticity	MPa 75.500
Coefficient of thermal expansion	$\frac{x10^{-6}}{^{\circ}C}$ 23,4
Thermal conductivity at 20°C	$\frac{W}{mk}$ 172
Typical electrical resistivity at 20°C	$\frac{\Omega mm^2}{m}$ 0,039

Minimum mechanical properties						
	Temper	Diam. mm	Rm		Rp0,2	
			MPa	MPa	A%	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 ≤ 200	340	250	8	90
	T6	200 < D ≤ 250	300	200	8	90

\*6026 is registered with Pb ≤ 0,40