

Impol FREE – CUTTING ALLOYS

RoHS 1 2002/95/EC From July 2006	RoHS 2 2011/65/EU From January 2013	RoHS 3 2018/740/EU From June 2021		
Max. 0.60 % Pb	Max. 0.40 % Pb	Max. 0.10 % Pb		
EN AW 2011	EN AW 2011 RoHS AA 2011 RoHS	2011 LF	with Bi	NEW
		AA 2041		
EN AW 6262	EN AW 6026	EN AW 6026 LF AA 6026 LF	with Bi	NEW
	EN AW 6064A	EN AW 6262 A	with Sn and Bi	
EN AW 6012	EN AW 6012R	EN AW 6023	with Sn and Bi	
		AA 6028	with Sn and Bi	
EN AW 2007*	AA 2028 A	2030 LF	with Bi	NEW
EN AW 2030*		AA 2044	with Sn and Bi	
		EN AW 2033		NEW

- ELV conform
- Pb max. 1.00 %



Aluminium alloy EN AW 2011 - RoHS/AA 2011 - RoHS

Conforming to RoHS II (2011/65/EU) and ELV (2000/53/EC)

Alloy AA 2011 conforming to RoHS is developed specifically for electronics industry. It is renowned for its excellent machining characteristics and short chips. In the electronics industry the environment friendly and technologically advanced AA 2011 RoHS alloy is a direct replacement for 2011 alloy. Lead content of less than 0.4 % but it retain all the high quality properties and is a technical equivalent to the original 2011 alloy.



Chemical Composition EN AW 2011 - RoHS/AA 2011 - RoHS

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Each	Total	Other	Additional
EN AW 2011 RoHS/ AA 2011 RoHS EN 573-3	max. 0.40	max. 0.70	5.0 6.0	max. 0.05	max. 0.05	max. 0.05	max. 0.30	max. 0.05	0.20- 0.40	max. 0.05	max. 0.15	Bi= 0.2-0.6	

Mechanical properties EN AW 2011 - RoHS/AA 2011 - RoHS

Cold Drawn EN 754-2

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T3	2,5 to 40	0.098 to 1.575	320	45	270	40	10	10	90
	40 to 50	1.575 to 1.969	300	43	250	36	10	12	90
	50 to 76.2	1.969 to 3	280	40	210	30	10	14	90
T8	2,5 to 76.20	0.098 to 3	370	54	270	40	8	12	115

Extruded EN 755-2

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T4	20 to 180	0.788 to 7.087	275	40	125	18	14	14	80
T6	20 to 75	0.788 to 2.953	310	45	230	33	8	10	90
	75 to 180	2.953 to 7.087	295	43	195	28	6	10	90

Comparative Characteristics EN AW 2011 - RoHS/AA 2011 - RoHS

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazeability	Weldability	
	General	Stress				Gas	Arc
T3	●	●	●●●●	●●	●	●	●●●
T8	●	●●●	●●●●	●●	●	●	●
T4	●	●	●●●●	●●	●	●	●●●
T6	●	●●●	●●●●	●●	●	●	●

Rating: ●●●● - Excellent | ●●● - Good | ●● - Fair | ● - Poor



Physical Properties EN AW 2011 - RoHS/AA 2011 - RoHS

Density (g/cm ³)	2.82
Modulus of elasticity (MPa)	70300
Thermal conductivity (W/m K)	152-173
Coefficient of thermal expansion (25-100°) 10 ⁻⁶ /K	23.1
Electrical conductivity at 20°C (MS/m)	22.6-26.1 (39%-45% IACS)



Conforming to ELV (2000/53/EC) and RoHS III (2018/740/EU)

Alloy AA 2011 LF conforming to RoHS III is developed specifically for machining applications. It is renowned for its excellent machining characteristics and short chips. **Alloy 2011 LF does not contain Sn and Pb.** Modified alloy is a direct replacement for 2011 alloy and retains all the high quality properties and is a technical equivalent to the original 2011 alloy.



Chemical Composition 2011 LF

Alloy	Si	Fe	Cu	Mn	Mg	Zn	Ti	Pb*	Bi	Sn*	Each	Total
2011 LF	max. 0.4	max. 0.70	5.0 6.0	max. 0.05	max. 0.05	max. 0.30	max. 0.05	max. 0.10	0.50- 1.00	max. 0.05	max. 0.05	max. 0.15

*No intentional Pb and Sn additions.

Mechanical properties 2011 LF

Cold Drawn

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T3	2.5 to 40	0.098 to 1.575	320	45	270	40	10	10	90
	40 to 50	1.575 to 1.969	300	43	250	36	10	12	90
	50 to 76.2	1.969 to 3	280	40	210	30	10	14	90
T8	2.5 to 76.20	0.098 to 3	370	54	270	40	8	12	110

Extruded

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T4	20 to 180	0.788 to 7.087	275	40	125	18	14	14	80
T6	20 to 75	0.788 to 2.953	310	45	230	33	8	10	90
	75 to 180	2.953 to 7.087	295	43	195	28	6	10	90

Comparative Characteristics 2011 LF

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazeability	Weldability	
	General	Stress				Gas	Arc
T3	●	●	●●●●	●●	●	●	●●●
T8	●	●●●	●●●●	●●	●	●	●
T4	●	●	●●●●	●●	●	●	●●●
T6	●	●●●	●●●●	●●	●	●	●

Rating: ●●●● - Excellent | ●●● - Good | ●● - Fair | ● - Poor



Physical Properties 2011 LF

Density (g/cm ³)	2.84
Modulus of elasticity (MPa)	74100
Thermal conductivity (W/m K)	200-210
Coefficient of thermal expansion (25-100°) 10 ⁻⁶ /K	22.3-23.0
Electrical conductivity at 20°C (MS/m)	19-23 (32.7%-39.6% IACS)

Conforming to RoHS III (2018/740/EU) and ELV (2000/53/EC)

Alloy AA 2041 is the most free-machining of common aluminium alloy. It is renowned for its excellent machining characteristics and short chips. AA 2041 alloy is a direct replacement for 2011 and retains all the technological properties of the original alloys.



Chemical Composition AA 2041

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb*	Each	Total	Other	Additional
AA 2041	max. 0.40	max. 0.70	5.0 6.0	max. 0.05	max. 0.05	max. 0.05	max. 0.30	max. 0.05	max. 0.05	max. 0.05	max. 0.15	Sn=0.5-0.7 Bi=0.5-0.7	

*No intentional Pb and Sn additions.

Mechanical properties AA 2041

Cold Drawn

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T3	2.5 to 40	0.098 to 1.575	320	45	270	40	10	10	90
	40 to 50	1.575 to 1.969	300	43	250	36	10	12	90
	50 to 76.2	1.969 to 3	280	40	210	30	10	14	90
T8	2.5 to 76.20	0.098 to 3	370	54	270	40	8	12	110

Extruded

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T4	20 to 180	0.788 to 7.087	275	40	125	18	14	14	80
T6	20 to 75	0.788 to 2.953	310	45	230	33	8	10	90
	75 to 180	2.953 to 7.087	295	43	195	28	6	10	90

Comparative Characteristics AA 2041

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazeability	Weldability	
	General	Stress				Gas	Arc
T3	●	●	●●●●	●●	●	●	●●●
T8	●	●●●	●●●●	●●	●	●	●
T4	●	●	●●●●	●●	●	●	●●●
T6	●	●●●	●●●●	●●	●	●	●

Rating: ●●●● - Excellent | ●●● - Good | ●● - Fair | ● - Poor

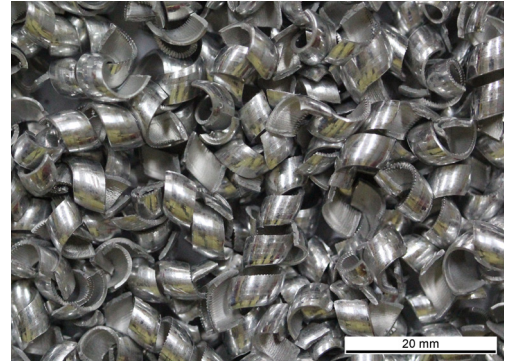


Physical Properties AA 2041

Density (g/cm ³)	2.83
Modulus of elasticity (MPa)	74630
Thermal conductivity (W/m K)	152-173
Coefficient of thermal expansion (25-100°) 10 ⁻⁶ /K	23.1
Electrical conductivity at 20°C (MS/m)	22.6-26.1 (39%-45% IACS)

Conforming to ELV (2000/53/EC) and RoHS II (2011/65/EU)

Alloy EN AW 6026 is developed specifically for machining applications, conform to ELV and RoHS and renowned for good machining characteristics and excellent anodizing response. Lead content less than 0.4 % and no other prohibited elements is used for automotive brake components, hydraulic valve blocks and many other applications. EN AW 6026 alloy is a direct replacement for 6012 and 6262 -classic, retains all the technological properties of the original 6012 and 6262.



Chemical Composition EN AW 6026 conforming to ELV and RoHS

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Each	Total	Other
EN AW 6026	0.6	max.	0.2	0.20	0.60	max.	max.	max.	max.	max.	max.	Bi=0.5-1.50
EN 573-3	1.4	0.70	0.50	1.00	1.20	0.30	0.30	0.20	0.40	0.05	0.15	Sn=max. 0.05

Mechanical Properties EN AW 6026 conforming to ELV and RoHS

Cold Drawn EN 754-2

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T6	2.5 to 76.2	0.098 to 3	370	54	300	44	8	5	95
T8	2.5 to 76.2	0.098 to 3	345	50	315	46	4	5	95
T9	2.5 to 76.2	0.098 to 3	360	52	330	48	4	5	95

Extruded EN 755-2

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T6, T6510, T6511	20 to 140	0.788 to 5.511	370	54	300	44	8	8	95
	140.01 to 180	5.512 to 7.086	340	49	250	36	8	8	90

Comparative Characteristics EN AW 6026 conforming to ELV and RoHS

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazeability	Weldability	
	General	Stress				Gas	Arc
T6, T8, T9	●●●●	●●●●●	●●●●	●●●●●	●●●●	●●●●	●●●●
T6, T6510, T6511	●●●●	●●●●●	●●●●	●●●●●	●●●●	●●●●	●●●●

Rating: ●●●●● - Excellent | ●●●● - Good | ●●● - Fair | ● - Poor



Physical Properties EN AW 6026 conforming to ELV and RoHS

Density (g/cm ³)	2.73
Modulus of elasticity (MPa)	69640
Thermal conductivity (W/m K)	172
Coefficient of thermal expansion (25-100°) 10 ⁻⁶ /K	23.4
Electrical conductivity at 20°C (MS/m)	26 (45% IASC)

Conforming to ELV (2000/53/EC)

Alloy EN AW 6012 is developed specifically for machining applications, conform to ELV and renowned for good machining characteristics and excellent anodizing response. Lead content less than 1 % and no other prohibited elements is used for automotive brake components, hydraulic valve blocks and many other applications. EN AW 6012 alloy is a direct replacement for 6012-classic, retains all the technological properties of the original 6012.



Chemical Composition EN AW 6012 conforming to ELV

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Each	Total	Other
EN AW 6012	0.6	max.	max.	0.40	0.60	max.	max.	max.	0.40	max.	max.	Bi=max.0.70
EN 573-3	1.0	0.50	0.1.0	1.00	1.20	0.30	0.30	0.20	1.00	0.05	0.15	

Mechanical Properties EN AW 6012 conforming to ELV

Cold Drawn EN 754-2

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T6	2.5 to 76.2	0.098 to 3	310	45	260	38	8	8	105

Extruded EN 755-2

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T6 T6510 T6511	20 to 150	0.788 to 5.906	310	45	260	38	8	10	105
T6 T6510 T6511	150 to 180	5.906 to 7.087	260	38	200	29	8	10	105

Comparative Characteristics EN AW 6012 conforming to ELV

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazeability	Weldability	
	General	Stress				Gas	Arc
T6	●●●●	●●●●●	●●●●	●●●●●	●●●●	●●●●	●●●●
T6, T6510, T6511	●●●●	●●●●●	●●●●	●●●●●	●●●●	●●●●	●●●●

Rating: ●●●●● - Excellent | ●●●● - Good | ●●● - Fair | ● - Poor



Physical Properties EN AW 6012 conforming to ELV

Density (g/cm ³)	2.74
Modulus of elasticity (MPa)	70110
Thermal conductivity (W/m K)	172
Coefficient of thermal expansion (25-100°) 10 ⁻⁶ /K	23.4
Electrical conductivity at 20°C (MS/m)	26 (45% IACS)



Conforming to RoHS II (2011/65/EU) and ELV (2000/53/EC)

Alloy EN AW 6064A is developed specifically for electronics industry and renowned for good machining characteristics and excellent anodizing response. EN AW 6064A is a direct replacement for 6262, where lead content less than 0.4 % and retains all the technological properties of the original alloy 6262. Alloy EN AW 6064A is used for electronics and automotive industry. AA 6064 = EN AW 6262R (old designation).



Chemical Composition EN AW 6064A

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Each	Total	Other	Additional
EN AW 6064A EN 573-3	0.40 0.80	max. 0.70	0.15 0.40	max. 0.15	0.80 1.20	0.04 0.14	max. 0.25	max. 0.15	0.20 0.40	max. 0.05	max. 0.15	Bi=0.40- 0.80	

Mechanical properties EN 754-2

Cold Drawn EN 754-2

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T8	2.5 to 76.2	0.098 to 3	345	50	315	46	4	5	80
T9	2.5 to 76.2	0.098 to 3	360	52	330	48	4	5	90
T6	2.5 to 76.2	0.098 to 3	310	45	260	38	8	8	95

Extruded EN 755-2

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T6	20 to 140	0.788 to 7.087	310	45	260	38	8	8	95
T6, T6510, T6511	140 to 180	5.512 to 7.086	260	38	240	35	8	8	90

Comparative Characteristics EN AW 6064A

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazeability	Weldability	
	General	Stress				Gas	Arc
T6, T8, T9	●●●●	●●●●●	●●●●	●●●●●	●●●●	●●●●	●●●●
T6	●●●●	●●●●●	●●●●	●●●●●	●●●●	●●●●	●●●●

Rating: ●●●●● - Excellent | ●●●● - Good | ●●● - Fair | ● - Poor



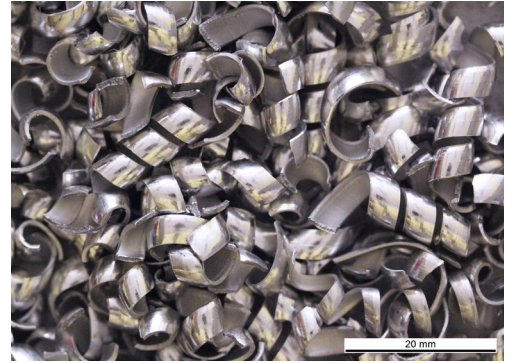
Physical Properties EN AW 6064A

Density (g/cm ³)	2.73
Modulus of elasticity (MPa)	69100
Thermal conductivity (W/m K)	172
Coefficient of thermal expansion (25-100°) 10 ⁻⁶ /K	23.4
Electrical conductivity at 20°C (MS/m)	26 (45% IASC)



Conforming to ELV (2000/53/EC) and RoHS III (2018/740/EU)

Alloy 6026 LF is developed specifically for machining applications, conform to ELV and RoHS and renowned for good machining characteristics and excellent anodizing response. **Alloy 6026 LF does not contain Sn and Pb.** AA 6026 LF alloy is a direct replacement for 6026, 6012 and 6262-classic, retains all the technological properties of the original 6026, 6012 and 6262.



Chemical Composition EN AW 6026 LF/AA 6026 LF

Alloy	Si	Fe	Cu	Mn	Mg	Zn	Ti	Pb	Bi	Sn	Each	Total
EN AW 6026 LF/ EN 573-3	0.60 1.4	max. 0.70	0.20 0.50	0.20 1.00	0.60 1.20	max. 0.30	max. 0.20	max. 0.05	0.50- 1.50	max. 0.05	max. 0.05	max. 0.15

Mechanical properties EN AW 6026 LF/AA 6026 LF

Cold Drawn EN 754-2

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T6	2.5 to 76.2	0.098 to 3	370	54	300	44	8	5	95
T8	2.5 to 76.2	0.098 to 3	345	50	315	46	4	5	95
T9	2.5 to 76.2	0.098 to 3	360	52	330	48	4	5	95

Extruded EN 755-2

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T6, T6510, T6511	20 to 140	0.788 to 5.511	370	54	300	44	8	8	95
	140.01 to 180	5.512 to 7.086	340	49	250	36	8	8	90

Comparative Characteristics EN AW 6026 LF/AA 6026 LF

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazeability	Weldability	
	General	Stress				Gas	Arc
T6, T8, T9	●●●	●●●●	●●●	●●●●	●●●	●●●	●●●
T6, T6510, T6511	●●●	●●●●	●●●	●●●●	●●●	●●●	●●●

Rating: ●●●● - Excellent | ●●● - Good | ●● - Fair | ● - Poor

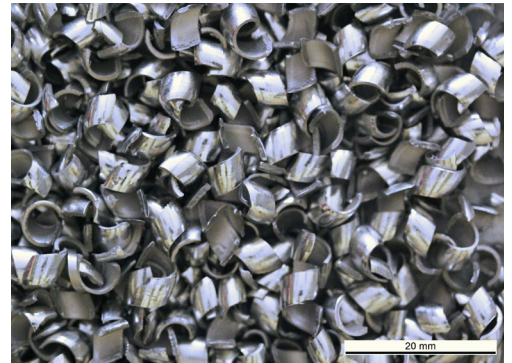


Physical Properties EN AW 6026 LF/AA 6026 LF

Density (g/cm ³)	2.75
Modulus of elasticity (MPa)	71130
Thermal conductivity (W/m K)	210
Coefficient of thermal expansion (25-100°) 10 ⁻⁶ /K	22.4-23.1
Electrical conductivity at 20°C (MS/m)	20-26 (34.5-45% IASC)

Conforming to RoHS III (2011/65/EU) and ELV(2000/53/EC)

Alloy AA 6028 is developed specifically for electronics and automotive industry for machining applications and it is renowned for good machining characteristics and excellent anodizing response. Used for automotive brake components, hydraulic valve blocks and many other applications. AA 6028 alloy is a direct replacement for 6012 and 6262 and retains all the technological properties of the original alloys.



Chemical Composition AA 6028

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Each	Total	Other
AA 6028	1.00 1.30	max. 0.50	0.25 0.40	0.60 0.90	0.70 1.00	0.04 0.10	max. 0.30	max. 0.20	max. 0.05	max. 0.05	max. 0.15	Sn=0.6-0.8 Bi=0.6-0.8

Mechanical Properties AA 6028

Cold Drawn

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T6, T8	2.5 to 76.2	0.098 to 3	345	50	315	46	4	5	80

Extruded

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T6 T6510 T6511	20 to 150	0.788 to 5.906	310	45	260	38	8	10	80
T6 T6510 T6511	150 to 180	5.906 to 7.087	260	38	200	29	8	10	80

Comparative Characteristics AA 6028

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazeability	Weldability	
	General	Stress				Gas	Arc
T6	●●●	●●●●	●●●	●●●●	●●●	●●●	●●●
T6, T6510, T6511	●●●	●●●●	●●●	●●●●	●●●	●●●	●●●

Rating: ●●●● - Excellent | ●●● - Good | ●● - Fair | ● - Poor

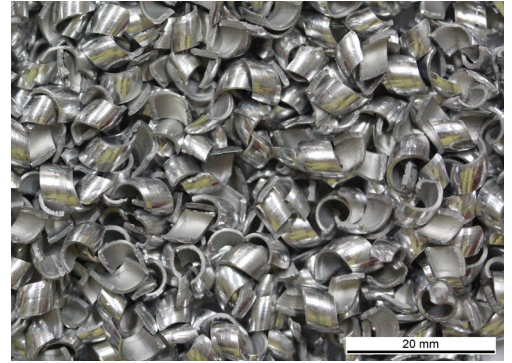


Physical Properties AA 6028

Density (g/cm ³)	2.72
Modulus of elasticity (MPa)	69990
Thermal conductivity (W/m K)	172
Coefficient of thermal expansion (25-100°) 10 ⁻⁶ /K	23.4
Electrical conductivity at 20°C (MS/m)	26 (45% IASC)

Conforming to RoHS III (2018/740/EU) and ELV(2000/53/EC)

Alloy EN AW 6023 is developed specifically for electronics and automotive industry for machining applications and it is renowned for good machining characteristics and excellent anodizing response. Used for automotive brake components, hydraulic valve blocks and many other applications. EN AW 6023 alloy is replacement for 6012 and 6262, where lead is substituted with tin and bismuth and retains all the technological properties of the original alloys.



Chemical Composition EN AW 6023 - EN 573-3

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Each	Total	Other	Additional
EN AW 6023	0.60	max.	0.20	0.20	0.40	max.	max.	max.	max.	max.	max.	Sn=0.6-1.2	
EN 573-3	1.40	0.50	0.50	0.60	0.90	0.05	0.05	0.05	0.05	0.05	0.15	Bi=0.3-0.8	

Mechanical properties EN AW 6023

Cold Drawn

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T6, T8	2.5 to 76.2	0.098 to 3	345	50	315	46	4	5	80

Extruded

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T6 T6510 T6511	20 to 150	0.788 to 5.906	320	46	270	39	10	10	80
T6 T6510 T6511	150 to 180	5.906 to 7.087	260	38	200	29	8	10	80

Comparative Characteristics EN AW 6023

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazeability	Weldability	
	General	Stress				Gas	Arc
T6	●●●	●●●●	●●●	●●●●	●●●	●●●	●●●
T6, T6510, T6511	●●●	●●●●	●●●	●●●●	●●●	●●●	●●●

Rating: ●●●● - Excellent | ●●● - Good | ●● - Fair | ● - Poor



Physical Properties EN AW 6023

Density (g/cm ³)	2.74
Modulus of elasticity (MPa)	69940
Thermal conductivity (W/m K)	217
Coefficient of thermal expansion (25-100°) 10 ⁻⁶ /K	22.4-23.1
Electrical conductivity at 20°C (MS/m)	20-27 (34.5-46.6% IACS)



Conforming to ELV(2000/53/EC) and RoHS III (2018/740/EU)

Alloy AA 6262 A/EN AW 6262 A is developed specifically for electronics and automotive industry for machining applications and it is renowned for good machining characteristics and excellent anodizing response. Used for automotive brake components, hydraulic valve blocks and many other applications. AA 6262 A/EN AW 6262 A alloy is a direct replacement for 6262 – classic and retains all the technological properties of the original alloy 6262.



Chemical Composition AA 6262 A/EN AW 6262 A conforming to ELV and RoHS

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Each	Total	Other
AA 6262 A/ EN AW 6262 A EN 573-3	0.40 0.80	max. 0.70	0.15 0.40	max. 0.15	0.80 1.20	0.04 0.14	max. 0.25	max. 0.10	max. 0.05	max. 0.05	max. 0.15	Bi=0.40-0.90 Sn=0.40-1.00

Mechanical Properties AA 6262 A/EN AW 6262 A conforming to ELV and RoHS

Cold Drawn

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T6	2.5 to 76.2	0.098 to 3	345	50	315	46	4	5	90
T8	2.5 to 76.2	0.098 to 3	345	50	315	46	4	5	90
T9	2.5 to 76.2	0.098 to 3	360	52	330	48	4	5	95

Extruded

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T6, T6510, T6511	20 to 180	0.788 to 7.087	260	38	240	35	10	10	80

Comparative Characteristics AA 6262 A/EN AW 6262 A conforming to ELV and RoHS

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazeability	Weldability	
	General	Stress				Gas	Arc
T6, T8, T9	●●●	●●●●	●●●	●●●●	●●●	●●●	●●●
T6, T6510, T6511	●●●	●●●●	●●●	●●●●	●●●	●●●	●●●

Rating: ●●●● - Excellent | ●●● - Good | ●● - Fair | ● - Poor



Physical Properties AA 6262 A/EN AW 6262 A conforming to ELV and RoHS

Density (g/cm ³)	2.74
Modulus of elasticity (MPa)	69500
Thermal conductivity (W/m K)	215
Coefficient of thermal expansion (25-100°) 10 ⁻⁶ /K	22.4-23.2
Electrical conductivity at 20°C (MS/m)	20-25 (34.5-43% IACS)

Aluminium alloy AA 2030/EN AW 2030 and AA 2007/EN AW 2007



Conforming to ELV(2000/53/EC)

Alloys AA 2030/EN AW 2030 and AA 2007/EN AW 2007 are developed specifically for machining applications, conform to ELV and renowned for good machining characteristics and mechanical properties. Lead content less than 1% and no other prohibited elements. AA2030 and 2007 alloys are direct replacement for 2030 and 2007 -classic, retains all the technological properties of the original alloys.



Chemical Composition AA 2030/EN AW 2030 and AA 2007/EN AW 2007

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Each	Total	Other	Additional
AA 2030 EN 573-3	max. 0.80	max. 0.70	3.30 4.50	0.20 1.00	0.50 1.00	max. 0.10	max. 0.50	max. 0.20	0.80 1.00	max. 0.05	max. 0.15	Bi=max. 0.2	
AA 2007 EN 573-3	max. 0.80	max. 0.80	3.30 4.60	0.50 1.00	0.40 1.80	max. 0.10	max. 0.80	max. 0.20	0.80 1.00	max. 0.05	max. 0.15	Bi=max. 0.2 Ni=max. 0.2 Sn=max. 0.2	

Mechanical properties AA 2030/EN AW 2030 and AA 2007/EN AW 2007

Cold Drawn EN 754-2

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T3, T351	7 to 30	0.275 to 1.181	370	54	240	35	7	7	100
T3, T351	30 to 76.20	1.181 to 3	340	50	220	32	6	6	90

Extruded EN 755-2

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T4, T4510, T4511	20 to 80	0.788 to 3.149	370	54	250	36	8	8	100
T4, T4510, T4511	80 to 180	3.149 to 7.087	340	50	220	32	8	8	90

Comparative Characteristics AA 2030/EN AW 2030 and AA 2007/EN AW 2007

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazeability	Weldability	
	General	Stress				Gas	Arc
T3	●	●●	●●●	●●●	●	●	●●●
T351	●	●●●	●●●	●●●	●	●	●●
T4, T4510, T4511	●	●●	●●●	●●●	●	●	●●●

Rating: ●●●● - Excellent | ●●● - Good | ●● - Fair | ● - Poor



Physical Properties AA 2030/EN AW 2030 and AA 2007/EN AW 2007

Density (g/cm ³)	2.82
Modulus of elasticity (MPa)	73640
Thermal conductivity (W/m K)	130-160
Coefficient of thermal expansion (25-100°) 10 ⁻⁶ /K	23.0
Electrical conductivity at 20°C (MS/m)	18-22 (31%-40% IACS)



Conforming to RoHS II (2011/65/EU) and ELV (2000/53/EC)

Alloy AA 2028 A is developed specifically for electronics industry and it is renowned for good machining characteristics and mechanical properties. AA 2028 A is a direct replacement for 2030 and 2007, where lead content is less than 0.4 % and retains all the technological properties of the original alloys. Alloy AA 2028 A is used for electronics and automotive industry.



Chemical Composition AA 2028 A

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Each	Total	Other	Additional
AA 2028 A	max. 0.80	max. 0.70	3.30 4.50	0.20 1.00	0.50 1.30	max. 0.10	max. 0.50	max. 0.20	0.20 0.40	max. 0.05	max. 0.15	Bi=0.5-0.7 Ni=max. 0.1	

Mechanical properties AA2028A

Cold Drawn

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T3, T351	7 to 30	0.275 to 1.181	370	54	240	35	7	7	100
T3, T351	30 to 76.20	1.181 to 3	340	50	220	32	6	6	90

Extruded

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T4, T4510, T4511	20 to 80	0.788 to 3.149	370	54	250	36	8	8	100
T4, T4510, T4511	80 to 180	3.149 to 7.087	340	50	220	32	8	8	90

Comparative Characteristics AA2028A

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazability	Weldability	
	General	Stress				Gas	Arc
T3	●	●●	●●●	●●●	●	●	●●●
T351	●	●●●	●●●	●●●	●	●	●●
T4, T4510, T4511	●	●●	●●●	●●●	●	●	●●●

Rating: ●●●● - Excellent | ●●● - Good | ●● - Fair | ● - Poor



Physical Properties AA2028A

Density (g/cm ³)	2.81
Modulus of elasticity (MPa)	74330
Thermal conductivity (W/m K)	130-160
Coefficient of thermal expansion (25-100°) 10 ⁻⁶ /K	23.0
Electrical conductivity at 20°C (MS/m)	18-22 (31%-40% IACS)



Conforming to ELV (2000/53/EC) and RoHS III (2018/740/EU)

Alloy 2030 LF conforming to RoHS III is developed specifically for machining applications. It is renowned for its excellent machining characteristics and short chips. **Alloy 2030 LF does not contain Sn and Pb.** Modified alloy is a direct replacement for 2030/2007 alloy and retains all the high quality properties and is a technical equivalent to the original 2030/2007 alloy.



Chemical Composition 2030 LF

Alloy	Si	Fe	Cu	Mn	Mg	Zn	Ti	Pb*	Bi	Sn*	Each	Total
2030 LF	max. 0.80	max. 0.80	3.30 4.60	0.20 1.00	0.40 1.80	max. 0.80	max. 0.20	max. 0.05	0.20- 1.00	max. 0.05	max. 0.05	max. 0.15

*No intentional Pb and Sn additions. Maximum 0.05%.

Mechanical properties 2030 LF

Cold Drawn

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T3, T351	7 to 30	0.275 to 1.181	370	54	240	35	7	7	100
T3, T351	30 to 76.20	1.181 to 3	340	50	220	32	6	6	90
T8	7 to 76.2	0.275 to 3	370	54	240	35	5	5	115

Extruded

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T4, T4510, T4511	20 to 80	0.788 to 3.149	370	54	250	36	8	8	100
T4, T4510, T4511	80 to 180	3.149 to 7.087	340	50	220	32	8	8	90

Comparative Characteristics 2030 LF

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazability	Weldability	
	General	Stress				Gas	Arc
T3	●	●●	●●●	●●●	●	●	●●●
T351, T8	●	●●●	●●●	●●●	●	●	●●
T4, T4510, T4511	●	●●	●●●	●●●	●	●	●●●

Rating: ●●●● - Excellent | ●●● - Good | ●● - Fair | ● - Poor

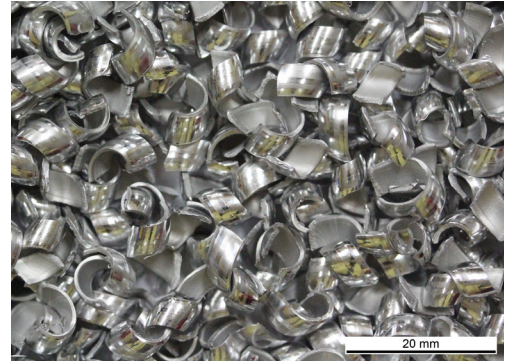


Physical Properties 2030 LF

Density (g/cm ³)	2.81
Modulus of elasticity (MPa)	74360
Thermal conductivity (W/m K)	200
Coefficient of thermal expansion (25-100°) 10 ⁻⁶ /K	23.4-24.9
Electrical conductivity at 20°C (MS/m)	18-22 (31%-40% IACS)

Conforming to ELV (2000/53/EC) and RoHS III (2018/740/EU)

Alloy EN AW 2033 conforming to RoHS III is developed specifically for machining applications. It is renowned for its excellent machining characteristics and short chips. **Alloy EN AW 2033 does not contain Sn and Pb.** Modified alloy is a replacement for 2030/2007 or 2011 alloy and retains all the high quality properties and is a technical equivalent to the original 2030/2007 or 2011 alloy.



Chemical Composition EN AW 2033

Alloy	Si	Fe	Cu	Mn	Mg	Zn	Ti	Pb*	Bi	Sn*	Each	Total
EN AW 2033	0.10 1.20	max. 0.70	2.20 2.70	0.40 1.00	0.20 0.60	max. 0.50	max. 0.15	max. 0.05	0.05- 0.80	max. 0.05	max. 0.05	max. 0.15

*No intentional Pb and Sn additions.

Mechanical properties EN AW 2033

Cold Drawn

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T3	2.5 to 30	0.098 to 1.181	370	54	240	35	8	8	100
T3	30 to 76.20	1.181 to 3	340	50	220	32	8	8	100
T8	2.5 to 76.20	0.098 to 3	370	54	270	39.2	8	8	105

Extruded

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T4, T4510, T4511	20 to 80	0.788 to 3.149	370	54	220	32	8	8	90
T4, T4510, T4511	80 to 180	3.149 to 7.087	340	50	220	32	8	8	90
T6, T6510, T6511	20 to 80	0.788 to 3.149	370	54	250	36	8	8	105
T6, T6510, T6511	80 to 180	3.149 to 7.087	340	50	220	32	8	8	105

Comparative Characteristics EN AW 2033

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazeability	Weldability	
	General	Stress				Gas	Arc
T3, T4, T4510, T4511,	●	●●	●●●	●●●	●	●	●●●
T8, T6, T6510, T6511	●	●●●	●●●	●●●	●	●	●●

Rating: ●●●● - Excellent | ●●● - Good | ●● - Fair | ● - Poor



Physical Properties EN AW 2033

Density (g/cm ³)	2.79
Modulus of elasticity (MPa)	73100
Thermal conductivity (W/m K)	208
Coefficient of thermal expansion (25-100°) 10 ⁻⁶ /K	22.4-23.1
Electrical conductivity at 20°C (MS/m)	18-23 (31%-40% IACS)



Conforming to RoHS III (2018/740/EU) and ELV(2000/53/EC)

Alloy AA 2044 is developed specifically for electronics and automotive industry for excellent machining characteristics and mechanical properties. AA 2044 alloy is a direct replacement for 2030 and 2007, where lead it is substituted with tin and bismuth and retains all the technological properties of the original alloys.



Chemical Composition AA 2044

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Each	Total	Other	Additional
AA 2044	max. 0.80	max. 0.70	3.30 4.50	0.20 1.00	0.50 1.30	max. 0.10	max. 0.50	max. 0.20	max. 0.05	max. 0.05	max. 0.15	Sn=0.75-1.3 Bi=0.2-0.4 Ni=max. 0.1	

Mechanical properties AA 2044

Cold Drawn

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T3, T351	7 to 76.2	0.275 to 3	370	54	240	35	7	7	100

Extruded

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T4, T4510, T4511	20 to 80	0.788 to 3.149	370	54	250	36	8	8	100
T4, T4510, T4511	80 to 180	3.149 to 7.087	340	50	220	32	8	8	90

Comparative Characteristics AA 2044

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazeability	Weldability	
	General	Stress				Gas	Arc
T3	●	●●	●●●	●●●	●	●	●●●
T351	●	●●●	●●●	●●●	●	●	●●
T4, T4510, T4511	●	●●	●●●	●●●	●	●	●●●

Rating: ●●●● - Excellent | ●●● - Good | ●● - Fair | ● - Poor



Physical Properties AA 2044

Density (g/cm ³)	2.81
Modulus of elasticity (MPa)	74650
Thermal conductivity (W/m K)	170-200
Coefficient of thermal expansion (25-100°) 10 ⁻⁶ /K	23.0-24.8
Electrical conductivity at 20°C (MS/m)	18-22 (31%-40% IACS)



Conforming to ELV (2000/53/EC) and RoHS II (2011/65/EU)

Alloy 6012R is developed specifically for machining applications, conform to ELV and RoHs and renowned for good machining characteristics and excellent anodizing response. Lead content less than 0,4% and no other prohibited elements is used for automotive brake components, hydraulic valve blocks and many other applications. 6012R alloy is a direct replacement for 6012, retains all the technological properties of the original 6012.



Chemical Composition 6012R

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Each	Total	Other
6012R	0.60 1.4	max. 0.50	max. 0.1	0.40 1.00	0.60 1.20	max. 0.3	max. 0.30	max. 0.15	0.2 0.4	max. 0.05	max. 0.15	Bi= 0.8-1.0

Mechanical properties 6012R

Cold Drawn

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T8	5 to 76.2	0.197 to 3	310	45	260	38	8	8	90

Extruded

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T6	to 150		310		260		8	6	90
	150.01 to 180		260		200		8	6	90

Comparative Characteristics 6012R

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazeability	Weldability	
	General	Stress				Gas	Arc
T6, T8, T9	●●●	●●●●	●●●	●●●●	●●●	●●●	●●●
T6, T6510, T6511	●●●	●●●●	●●●	●●●●	●●●	●●●	●●●

Rating: ●●●● - Excellent | ●●● - Good | ●● - Fair | ● - Poor



Physical Properties 6012R

Density (g/cm ³)	2.75
Modulus of elasticity (MPa)	70500
Thermal conductivity (W/m K)	210
Coefficient of thermal expansion (25-100°) 10 ⁻⁶ /K	22.4-23.1
Electrical conductivity at 20°C (MS/m)	20-26 (34.5-45% IASC)



Conforming to ELV (2000/53/EC)

Alloy EN AW 6262/ AA 6262 is developed specifically for machining applications, renowned for good machining characteristics and excellent anodizing response. Lead content less than 1% and no other prohibited elements is used for automotive brake components, hydraulic valve blocks and many other applications.



Chemical Composition EN AW 6262/AA6262

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Each	Total	Other
AA6262	0.40	max.	0.15	max	0.80	0.04	max.	max.	0.4	max.	max.	Bi=
EN AW 6262	0.80	0.70	0.40	0.15	1.20	0.14	0.25	0.15	0.7	0.05	0.15	0.4-0.7

Mechanical properties EN AW 6262/AA6262

Cold Drawn

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T6	5 to 76.2	0.197 to 3	290	50	315	46	4	5	90
T8	5 to 76.2	0.197 to 3	345	50	315	46	4	5	90
T9; T91	5 to 76.2	0.197 to 3	360	52	330	48	4	5	95

Extruded

Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T6, T6510, T6511	20 to 180	0,788-7,087	260	38	240	35	10	10	75

Comparative Characteristics EN AW 6262/AA6262

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazeability	Weldability	
	General	Stress				Gas	Arc
T6, T8, T9	●●●	●●●●	●●●●	●●●●	●●●	●●●	●●●
T6, T6510, T6511	●●●	●●●●	●●●	●●●●	●●●	●●●	●●●

Rating: ●●●● - Excellent | ●●● - Good | ●● - Fair | ● - Poor



Physical Properties EN AW 6262/AA6262

Density (g/cm ³)	2.73
Modulus of elasticity (MPa)	68930
Thermal conductivity (W/m K)	172
Coefficient of thermal expansion (25-100°) 10 ⁻⁶ /K	23.4
Electrical conductivity at 20°C (MS/m)	26 (45% IASC)