



Alloy 2011 by MTC NISSAL company

According to EU directives: 2000/53/CE (ELV) - 2011/65/EU (RoHS II)

Color code EU **RED**

PRODUCTION PROGRAM			
Unit:mm			
Drawn	10 ÷ 65	10 ÷ 36	20 ÷ 36
Extruded	20 ÷ 120	20 ÷ 36	20 ÷ 36

2011 is the alloy of choice when good strength and high machining rates are desired. Often called a Free Machining Alloy or 'FMA'. Machining at high speeds produces with fine chips that are easily removed. It has poor corrosion resistance, which means parts made from 2011 tend to be anodised to provide additional. Main applications: screws, bolts, nuts, threaded bars.

CHEMICAL COMPOSITION

Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Pb	Bi	Other	Al
≤0.04	≤0.7	5.0+6.0					≤0.3		0.2+0.4	0.2+0.6	Each 0.05 Total 0.15	Remainder

PHYSICAL PROPERTIES

Density	$\frac{\text{Kg}}{\text{dm}^3}$	2.83
Modules of elasticity	MPa	70.000
Coefficient of thermal expansion	$\frac{\times 10^{-6}}{^{\circ}\text{C}}$	22.9
Thermal conductivity at 20°C	$\frac{\text{W}}{\text{mk}}$	T3:151 T8:171
Typical electrical resistivity at 20°C	$\frac{\Omega\text{mm}^2}{\text{m}}$	T3:0.038 T8:0.043

MECHANICAL PROPERTIES

	Temper	Diam mm	Rm Mpa	Rp Mpa	A%	HBW Tipical
Drawn	T3	≤40	320	270	10	90
	T3	40<D≤50	300	250	10	90
	T3	50<D≤80	280	210	10	90
	T8	≤80	370	270	8	115
Extruded	T4	≤200	275	125	12	95
	T6	≤75	310	230	8	110
	T6	75<D≤120	295	195	6	110

PROPERTIES	T3/T6				T8			
Mechinability								
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

Excellent				

Good				

Acceptable				

Not recommended				

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