METRA	EXTRUSION ALUMINIUM ALLOY	EN AW- 3103

The alloy type EN AW 3103 is used in constructions in which resistance to corrosion is more important than mechanical resistance, in other words where the chemical reaction between the metal and the surrounding fluids are to be minimised as far as possible, be they foodstuffs, atmospheric or technical fluids to be preserved chemically.
The extruded products made with this alloy are mainly used in channelling and machinery for the chemical, foodstuff and refrigeration industry.

Physical characteristics

Volume mass :	2,73	g / cm^3
Lower melting point:	643	°C
Specific heat between 0° and 100°C:	962	J/Kg °K
Linear modulus of elasticity E:	69000	N / mm^2
Tangential modulus of elasticity G:	26000	N/ mm^2

Thermal conductivity at 20°C	in state O:	1,925	W / cm °K
Linear thermal expansion coefficient	- 20°C - 100°C: - 20°C - 200°C: - 20°C - 300°C:	$23,2 \cdot 10^{-6}$ $24,2 \cdot 10^{-6}$ $25,1 \cdot 10^{-6}$	1 / °K 1 / °K 1 / °K
Electrical resistivity at 20°C	in state O:	3,45	$\mu\Omega \cdot cm$

Chemical composition according to European Standard EN 573.3

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others		Al
									Each	Total	
EN AW-3103	0,50 max	0,70 max	0,10 max	0,90 ÷ 1,50	0,30 max	0,10 max	0,20 max	(*)	0,05 max	0,15 max	rest

NOTE (*) : (Zr + Ti) = 0,10 max

Minimum mechanical properties, according to European Standard EN 755.2

Types of profile	(1) Temper state	Diameter D [mm] for rods or thickness TH [mm] for bars or thickness of walls and for sections	Tensile strength Rm [MPa]		Limit elasticity load $R_{p0.2}$ [MPa]		Elongation	
			min	max	min	max	A % min	A_{50mm} % min
Full bars	F (*) , H112	all	95	-	35	-	25	20
	O , H111		95	135	35	-	25	20
Extruded pipe	F (*) , H112	all	95	-	35	-	25	20
	O , H111		95	135	35	-	25	20
Sections	F (*) , H112	all	95	-	35	-	25	20

NOTE (*) for state F the values of the characteristics are just written as an indication
(1) see chart related to: “Description of the treatments and of the metallurgic states adopted in standard production”