

Alloy 2024

Chemical Composition Limits

ELEMENT

WEIGHT %	Cu	Mg	Mn	Si	Fe	Zn	Ti	Cr	Each	Total
MINIMUM	3.80	1.20	0.30	–	–	–	–	–	–	–
MAXIMUM	4.90	1.80	0.90	0.50	0.50	0.25	0.15	0.10	0.05	0.15

Typical Physical Properties

	AVERAGE COEFFICIENT OF THERMAL EXPANSION	MELTING RANGE APPROX.	TEMPER	THERMAL CONDUCTIVITY AT 77°F	ELECTRICAL CONDUCTIVITY AT 68°F		ELECTRICAL RESISTIVITY AT 68°F
	(68-212°F PER F)	°F		ENGLISH UNITS	EQUAL VOLUME	EQUAL WEIGHT	OHM-CIR. MIL/FOOT
ALLOY 2024	12.9	935-1180	O	1340	50	160	21
	–	–	T3, T4, T361	840	30	96	35
	–	–	T6, T81, T861	1050	38	122	27

Typical US Mechanical Properties

ALLOY AND TEMPER	TENSION				HARDNESS	SHEAR	FATIGUE	MODULUS
	STRENGTH KSI		ELONGATION PERCENT IN 2 IN.		BRINNELL NUMBER	ULTIMATE SHEARING STRENGTH	ENDURANCE LIMIT	MODULUS OF ELASTICITY
	ULTIMATE	YIELD	1/16 IN. THICK SPECIMEN	1/2 IN. DIAMETER SPECIMEN	500 KG LOAD 10 MM BALL	KSI	KSI	KSI X 10 ³
2024-O	27	11	20	22	47	18	13	10.6
2024-T3	70	50	18	–	120	41	20	10.6
2024-T4, T351	68	47	20	19	120	41	20	10.6
2024-T361	72	57	13	–	130	42	18	10.6

The following typical properties are not guaranteed, since in most cases they are averages for various sizes, product forms and methods of manufacture and may not be exactly representative of any particular product or size. These data are intended only as a basis for comparing alloys and tempers and should not be specified as engineering requirements or used for design purposes.