



ELEKTRON[®] ZA (K1A)

ELEKTRON ZA (K1A) is the Magnesium Zirconium alloy with the highest vibration damping index.

APPLICATIONS

Vibration tables, machine bases, casings for missile guidance systems and recording equipment.

CHEMICAL COMPOSITION

Zirconium	0.3 - 0.8%
Magnesium	Balance

TYPICAL MECHANICAL PROPERTIES

0.2% Proof stress	48 MPa
Ultimate tensile strength	170 MPa
Elongation	19%
Shear stress	55 MPa

MINIMUM SPECIFICATION TENSILE PROPERTIES

U.S.A. Specification	MIL-M-45207
0.2% Proof stress	41 MPa
Ultimate tensile strength	165 MPa
Elongation	14%

PHYSICAL PROPERTIES

Specific gravity	1.75
Coefficient of thermal expansion	$26.8 \times 10^{-6} \text{ K}^{-1}$
Thermal conductivity	$120 \text{ Wm}^{-1} \text{ K}^{-1}$
Specific heat	$1040 \text{ Jkg}^{-1} \text{ K}^{-1}$
Electrical resistivity	57 nΩm
Modulus of elasticity	$44.1 \times 10^3 \text{ MPa}$
Pattern maker's shrinkage	1.6%
Melting range	649—650 °C

ELEKTRON[®] ZA (K1A)**DAMPING INDEX**

The specific damping capacity is measured at a stress of 0.1 times 0.2% proof stress.

ELEKTRON ZA (K1A)	60.0
ELEKTRON ZRE1	1.89
ELEKTRON RZ5	0.28
ELEKTRON MSR-B	0.4
ELEKTRON AZ92	0.27
ELEKTRON EQ21	0.22
ELEKTRON AZ91	0.27
ELEKTRON WE54	0.17
ELEKTRON WE43	0.09
Manganese Copper Alloys	20 — 40
Grey Cast Iron	10.0
Free Cutting Brass	0.6
Aluminium Alloy 1100	0.3
Aluminium Alloy 2011	0.25
Most aluminium Alloys	0.2 or less

EQUIVALENT SPECIFICATION

British	ZA	
American	K1A	ASTM B80, B403 MIL-M-45207

† The information contained within is meant as a guideline only

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