

OVERVIEW

Full Name	Silver (Argentum)
Symbol	Ag
Atomic Number	47
Series	Transition Metal
Block / Group / Period	d-block Group 11 Period ...
Electron Config.	[Kr]5s14d10
Phase at STP	Solid
Colour	Silver
Discovery	3000 BC

THERMAL PROPERTIES

Melting Point	961.78 °C	°C
Melting Point (abs.)	1234.93 K	K
Boiling Point	2162 °C	°C
Boiling Point (abs.)	2435 K	K
Heat of Fusion	11.3 kJ/mol	kJ/mol
Heat of Vaporization	255 kJ/mol	kJ/mol
Specific Heat (solid)	235 J/(kg K)	J/(kg·K)
Thermal Conductivity	430 W/(m K)	W/(m·K)
Thermal Expansion	0.0000189 K⁻¹	K ⁻¹

MECHANICAL PROPERTIES

Density (solid, STP)	10.49 g/cm³	g/cm ³
Density (liquid, MP)	9.32 g/cm³	g/cm ³
Young's Modulus	85 GPa	GPa
Shear Modulus	30 GPa	GPa
Bulk Modulus	100 GPa	GPa
Poisson's Ratio	0.37	
Speed of Sound	2600 m/s	m/s
Mohs Hardness	2.5	
Vickers Hardness	251 MPa	MPa
Brinell Hardness	24.5 MPa	MPa

ELECTRICAL PROPERTIES

Type	Conductor	
Conductivity	6.2×10⁷ S/m	S/m
Resistivity	1.6×10⁻⁸ m ?	Ohm·m

MAGNETIC PROPERTIES

Type	Diamagnetic	
Vol. Susceptibility	-0.0000238	
Mass Susceptibility	-2.27×10⁻⁹ m³/Kg	m ³ /kg

REACTIVITY

Valence	1	
Electronegativity	1.93	(Pauling)
Electron Affinity	125.6 kJ/mol	kJ/mol
Ionization Energies	731, 2070	kJ/mol

ATOMIC DIMENSIONS

Atomic Radius	165 pm	pm
Covalent Radius	145 pm	pm
Van der Waals Radius	172 pm	pm

CRYSTAL STRUCTURE

Structure	Face-centered Cubic	
Lattice Constant	408.53, 408.53, 408.53 pm	
Space Group	Fm₃	#225

ISOTOPES & NUCLEAR

Stability	Stable	
Stable Isotopes	107Ag, 109Ag	
Isotopic Abundance	107Ag51.839%109Ag48.161%	
Known Isotopes	93Ag ■ 130Ag (38 total)	
Neutron Cross Sect.	63.6	barns

ELEMENTAL ABUNDANCES

Universe	6×10⁻⁸%	%
Earth's Crust	7.9×10⁻⁶%	%
Oceans	1×10⁻⁸%	%

HEALTH & SAFETY

RTECS Number	VW3500000
NFPA Health/Fire/Rx	0 / 0 / 0