

OVERVIEW	
Full Name	Lead (Plumbum)
Symbol	Pb
Atomic Number	82
Series	Poor Metal
Block / Group / Period	p-block Group 14 Period ...
Electron Config.	[Xe]6s24f145d106p2
Phase at STP	Solid
Colour	SlateGray
Discovery	4000 BC

THERMAL PROPERTIES		
Melting Point	327.46 °C	°C
Melting Point (abs.)	600.61 K	K
Boiling Point	1749 °C	°C
Boiling Point (abs.)	2022 K	K
Heat of Fusion	4.77 kJ/mol	kJ/mol
Heat of Vaporization	178 kJ/mol	kJ/mol
Specific Heat (solid)	127 J/(kg K)	J/(kg·K)
Thermal Conductivity	35 W/(m K)	W/(m·K)
Thermal Expansion	0.0000289 K ⁻¹	K ⁻¹

MECHANICAL PROPERTIES		
Density (solid, STP)	11.34 g/cm ³	g/cm ³
Density (liquid, MP)	10.66 g/cm ³	g/cm ³
Young's Modulus	16 GPa	GPa
Shear Modulus	5.6 GPa	GPa
Bulk Modulus	46 GPa	GPa
Poisson's Ratio	0.44	
Speed of Sound	1260 m/s	m/s
Mohs Hardness	1.5	
Brinell Hardness	38.3 MPa	MPa

ELECTRICAL PROPERTIES		
Type	Conductor	
Conductivity	4.8×10 ⁶ S/m	S/m
Resistivity	2.1×10 ⁻⁷ m ?	Ohm·m
Superconducting Pt.	7.2	K

MAGNETIC PROPERTIES		
Type	Diamagnetic	
Vol. Susceptibility	-0.000017	
Mass Susceptibility	-1.5×10 ⁻⁹ m ³ /Kg	m ³ /kg

REACTIVITY		
Valence	4	
Electronegativity	2.33	(Pauling)
Electron Affinity	35.1 kJ/mol	kJ/mol
Ionization Energies	715.6, 1450.5	kJ/mol

ATOMIC DIMENSIONS		
Atomic Radius	154 pm	pm
Covalent Radius	146 pm	pm
Van der Waals Radius	202 pm	pm

CRYSTAL STRUCTURE		
Structure	Face-centered Cubic	
Lattice Constant	495.08, 495.08, 495.08 pm	
Space Group	Fm_ 3m	#225

ISOTOPES & NUCLEAR		
Stability	Stable	
Stable Isotopes	204Pb, 206Pb, 207Pb, 208Pb	
Isotopic Abundance	204Pb1.4%206Pb24.1%207Pb22.1%208...	
Known Isotopes	178Pb ■ 215Pb (38 total)	
Neutron Cross Sect.	0.171	barns

ELEMENTAL ABUNDANCES		
Universe	1×10 ⁻⁶ %	%
Earth's Crust	0.001%	%
Oceans	3×10 ⁻⁹ %	%
Human Body	0.00017%	%

HEALTH & SAFETY	
RTECS Number	OF7525000
NFPA Health/Fire/Rx	0 / 0 / 0