

wolfram

Common Properties - Tungsten Oxide

Density (measured)	7.21 - 7.30 g/cm ³
Density (X-ray)	7.27 g/cm ³
Melting point	1472°C
	Significant sublimation starts already far below the melting point <750°C. The presence of water vapor enhances the volatility considerably.
Boiling point	1837°C
	At this temperature the sum of the volatile partial pressures corresponds to 1 bar. The volatile species are only polymeric molecules.
Micro Hardness	83-163 kg/mm ² (50 g)
Color	Yellow (smallest diminution of oxygen changes the color to different types of green); at lower temperature (-27 to - 50 °C) it is bluish white and at temperatures <-50°C white. At elevated temperature the color changes to brownish yellow.
-D H° ₂₉₈	40.5 kJ/mol
Electrical resistivity	0.14 - 0.18 Ω cm
Homogeneity range	WO _{2.9873+0.003}
Crystallography	Several allotropic modifications exist:
	Commercially available WO ₃ consists almost entirely of monoclinic γ-WO ₃ (+17°C - 330°C).

Source: E.Lassner and W.D.Schubert, TUNGSTEN: properties, chemistry, technology of the element, alloys and chemical compounds, ISBN 0-306-45053-4, Kluwer Academic / Plenum Publishers, New York (1990).