

2nd url link

Here is the extracted information presented in a clear and organized table format:

Physical Properties

Property	Metric Value	English Value	Comments
Density	4.51 g/cc	0.163 lb/in³	

Mechanical Properties

Property	Metric Value	English Value	Comments
Hardness			
Hardness, Knoop	170	170	
Hardness, Rockwell B	80	80	
Hardness, Vickers	145	145	
Tensile Strength			
Tensile Strength, Ultimate	344 MPa	49,600 psi	
Tensile Strength, Yield	275 - 410 MPa	39,900 - 59,500 psi	
Elongation at Break	20 %	20 %	
Reduction of Area	35 %	35 %	
Modulus & Elasticity			
Modulus of Elasticity (Tension)	105 GPa	15,200 ksi	
Compressive Modulus	110 GPa	16,000 ksi	
Poisson's Ratio	0.37	0.37	
Shear Modulus	45 GPa	6,530 ksi	
Impact & Fatigue			
Izod Impact	114 - 171 J	84.1 - 126 ft·lb	
Fatigue Strength (1E+7 cycles)	300 MPa	43,500 psi	Unnotched
Fatigue Strength (30,000 cycles)	425 MPa	61,600 psi	Unnotched
Fracture Toughness (K(O))	66 MPa·√m	60.1 ksi·√in	Annealed

Chemical Composition (Wt. %)

Component	Max %
C	0.1
Fe	0.3
H	0.015
N	0.03
O	0.25
Ti	99.2

Let me know if you'd like any modifications or additional details!

Here is the extracted information organized into clear tables for **Electrical, Thermal, and Optical Properties**:

Electrical Properties

Property	Metric Value	English Value	Comments
Electrical Resistivity	5.2 × 10 ohm-cm	5.2 × 10 ohm-cm	

Thermal Properties

Property	Metric Value	English Value	Comments
Heat Capacity			
Heat of Fusion	325 J/g	140 BTU/lb	High Purity Ti
Specific Heat Capacity (at 540°C)	0.67 J/g·°C	—	Initial value: 0.523 J/g·°C (0.125 BTU/lb·°F)
Thermal Expansion			
CTE, Linear (20°C)	8.6 m/m·°C	4.78 m/m·°F	0–100°C
CTE, Linear (250°C)	9.2 m/m·°C	5.11 m/m·°F	Average (0–315°C)
CTE, Linear (500°C)	9.7 m/m·°C	5.39 m/m·°F	0–540°C; higher to c-axis
Thermal Conductivity	16.4 W/m·K	114 BTU·in/hr·ft²·°F	Annealed
Phase Transition			
Melting Point (Liquidus)	1665 °C	3030 °F	
Beta Transus	913 °C	1860 °F	

Optical Properties

Property	Metric Value	English Value	Comments
Emissivity (0–1)	0.3	0.3	High purity Ti at 710°C
Reflection Coefficient (0–1)	0.56	0.56	High purity Ti, visible light

Notes

- **CTE**: Coefficient of Thermal Expansion.
- **Beta Transus**: Temperature at which titanium transitions to beta phase.
- Values marked "High purity Ti" refer to unalloyed titanium (Grade 2 in this case).

Let me know if you need further refinements or additional sections!