

Technical Data Sheet

Product Name: Tantalum Heat Element
Catalog No.: TA1419
Standard: ASTM B364-92
Size: Customized
Color: Grey
Grade: R05200; R05400



Specification

Form	Standard	Purity
Ribbon/Sheets/Rods/Twisted wire/Wire bundles/Wire mesh heaters	ASTM B364-92	≥99.95% 99.9%

Chemical Composition (% , Max.)

Element	C	O	N	H	Fe	Mo	Nb	Ni	Si	Ti	W	Ta
R05200	0.01	0.015	0.01	0.0015	0.01	0.02	0.1	0.01	0.005	0.01	0.05	Remainder
R05400	0.01	0.03	0.01	0.0015	0.01	0.02	0.1	0.01	0.005	0.01	0.05	Remainder

Properties

Properties	Unit	Value
Density	g/cm ³	16.6
Melting Point	°C	2,996
Boiling Point	°C	5,430
Tensile Strength	psi	35,000-70,000
Young's Modulus of Elasticity	lb/in ²	27 x 10 ⁶
Poisson's Ratio	-	0.35
Linear Coefficient of Expansion	per °C	6.5 x 10 ⁻⁶
Thermal Conductivity	W/m·K	57.5
Thermal Expansion	µm/m·K	6.3
Vickers Hardness	MPA	870-1200
Specific Heat at 20°C	cal/g/°C	0.036
Electrical Conductivity	IACS	13%
Electrical Resistivity at 20°C	nΩ·m	135.0
Recrystallization Temperature	°C	1200-1400
Stress Relieving Temperature	°C	850

Stanford Advanced Materials

By..... *Norman*