

# EVAPORATOR BOATS

## TECHNICAL DATA

### General Properties

The unique thermal shock resistance and chemical inertness against liquid aluminum are basic requirements of the boats qualified for the production of metalized films, papers, textiles, and other substrates. The general properties of Kennametal Sintec evaporator boats are as follows.

- Long term stability.
- Consistent electrical properties.
- Adjustable electrical resistivity.
- High thermal shock resistance.



### Applications

Resistance-heated boats or crucibles used in vacuum chambers at approximately 1500 °C to evaporize metals, such as aluminum.

### Product Information

Property	Data
Color	Gray
Boron Nitride	Approximately 50%
Titanium Diboride	Approximately 50%
Carbon (Max)	0.3%
Oxygen	0.6–1.7%
Theoretical Density	Approximately 3.00 g/cm <sup>3</sup>

### Specific Electrical Hot Resistivity $\rho$ (rho) at 1600 °C

Hot Resistivity Group	$\rho$ [ $\mu\text{Ohm}\cdot\text{cm}$ ] or [moc]
1	800–1200
2	1200–1600
3	1600–2000
4	2000–2400
5	2400–2800
6	2800–3200
7	3200–3600
8	3600–4000

### Typical Physical Properties

Property	Unit	2-comp
Specific Electrical Resistivity (1600 °C)	$\mu\text{Ohm}\cdot\text{cm}$ (moc)	1000–4000
Thermal Conductivity (20/1200 °C)	W/mK	115/40
Thermal Expansion (20–1500 °C)	K <sup>-1</sup>	9*10 <sup>-6</sup>
Flexural Strength (20/1500 °C)	MPa	110/30
Young's Modulus (20 °C)	GPa	65

NOTE: This data shows typical values and does not represent a specification.

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