

## Ceradyne Ceralloy® 546-4E Boron Carbide

Category : Ceramic , Carbide

### Material Notes:

Features:neutron absorptionwear resistancehardnesslightweightApplications:semiconductor componentswear componentsballistic armorsputtering targetsnuclear shieldingInformation provided by Ceradyne Company

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Ceradyne-Ceralloy-546-4E-Boron-Carbide.php](http://www.lookpolymers.com/polymer_Ceradyne-Ceralloy-546-4E-Boron-Carbide.php)

| Physical Properties | Metric    | English                   | Comments |
|---------------------|-----------|---------------------------|----------|
| Density             | 2.50 g/cc | 0.0903 lb/in <sup>3</sup> |          |
| Weibull Modulus     | 12        | 12                        |          |

| Mechanical Properties | Metric                          | English                           | Comments   |
|-----------------------|---------------------------------|-----------------------------------|------------|
| Vickers Microhardness | 3200                            | 3200                              |            |
| Modulus of Elasticity | 460 GPa                         | 66700 ksi                         |            |
| Flexural Strength     | 410 MPa<br>@Temperature 23.0 °C | 59500 psi<br>@Temperature 73.4 °F |            |
| Poissons Ratio        | 0.17                            | 0.17                              |            |
| Fracture Toughness    | 2.50 MPa-m <sup>1/2</sup>       | 2.28 ksi-in <sup>1/2</sup>        |            |
| Shear Modulus         | 197 GPa                         | 28600 ksi                         | calculated |

| Thermal Properties   | Metric                                      | English                                       | Comments |
|----------------------|---------------------------------------------|-----------------------------------------------|----------|
| CTE, linear          | 5.60 µm/m-°C<br>@Temperature 20.0 - 1000 °C | 3.11 µin/in-°F<br>@Temperature 68.0 - 1830 °F |          |
| Thermal Conductivity | 90.0 W/m-K                                  | 625 BTU-in/hr-ft <sup>2</sup> -°F             |          |

| Electrical Properties  | Metric      | English     | Comments |
|------------------------|-------------|-------------|----------|
| Electrical Resistivity | 10.0 ohm-cm | 10.0 ohm-cm |          |

| Descriptive Properties | Value | Comments |
|------------------------|-------|----------|
| Grain Size, microns    | 15    |          |
| Purity, %              | 99.5  |          |

## Contact Songhan Plastic Technology Co.,Ltd.

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