

# IMC COMPONENTS

## Intermetallic Composites

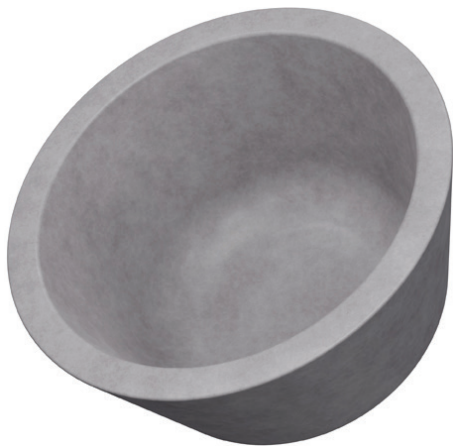
### TECHNICAL DATA

#### GENERAL PROPERTIES

Intermetallic composites (IMC) are unique materials that combine electrically insulating and electrically conductive materials to form a ceramic that can be heated to extreme temperatures using electrical resistance. IMC components are used when materials are required that can be superheated by electrical resistance, yet still resist molten metal and corrosive environments. Kennametal is a leading manufacturer of IMC components. We manufacture eight resistivity levels of IMC to meet any resistance requirement.

#### APPLICATIONS

- Metallization
- Semi-conductors
- Crucibles
- Electron beam evaporation
- Optical coating



#### PHYSICAL PROPERTIES

Property	Unit	IMC
Maximum Use Temperature	°C	1020 (oxidizing) 1900 (inert)
Young's Modulus at RT	GPa	34,1 para 75,2 perp
Thermal Conductivity at 25 °C	W/m*K	120
Thermal Conductivity at 1200 °C	W/m*K	35
CTE, RT to 1500 °C	10 <sup>-6</sup> K <sup>-1</sup>	8 para 6 perp
Flexural Strength	MPa at 25 °C	150
Flexural Strength	MPa at 1200 °C	30
Density	g/cm <sub>3</sub>	3.01
Ca	ppm	<100
Cr	ppm	<20
Mg	ppm	<20
Ni	ppm	<10
Fe	ppm	<50
Si	ppm	<15
P	ppm	<10
S	ppm	<10

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

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