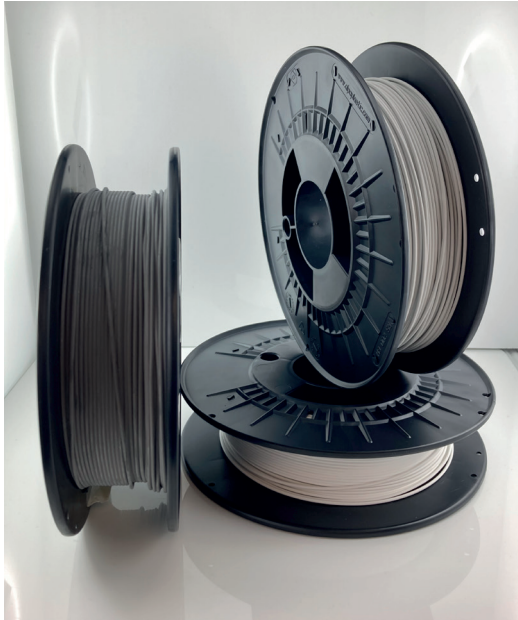




Filaments for FFF Ceramics and Metals



Sinto 3DCeram Tiwari GmbH
Rudower Chausse 29 - 12489 Berlin - Germany

ALUMINA

PROPERTIES

- Good mechanical strength
- Good thermal conductivity
- High electrical resistivity
- High hardness
- Good wear resistant
- Chemically inert

APPLICATIONS

Electrical insulators

Laboratory devices

Telecommunication equipment

Electronical devices

Space

Foundry cores

Optical instruments

SPECIFICATIONS

- Alumina: 99.8% purity
- Bulk density (g/cc): 3.9
- Flexural strength (MPa): 295
- Thermal Conductivity at 20°C (W/m-K): 39
- CTE (ppm/°C): 6.4
- Temperature range for CTE (°C): [-130, +399]



SILICON CARBIDE

PROPERTIES

- Very high hardness
- Good wear resistant at high temperature
- High thermal conductivity
- Low thermal expansion
- Abrasion resistant

APPLICATIONS

Semiconductor

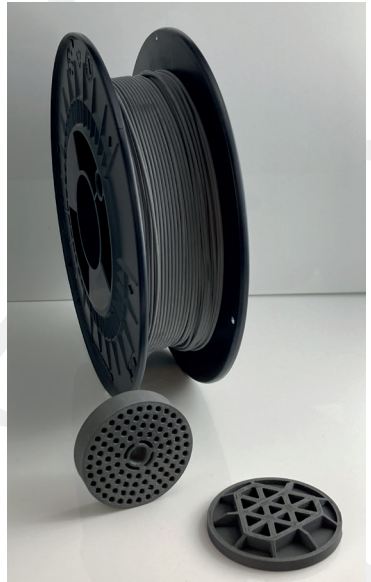
Aerospace

Defense

Optical instruments

SPECIFICATIONS

- Sintering type: Solid State Sintering
- Bulk density (g/cc): 3.11
- Flexural strength (MPa): 423
- CTE (ppm/°C): 2.9
- Thermal Conductivity at 20°C (W/m-K): 82



TITANIUM

PROPERTIES

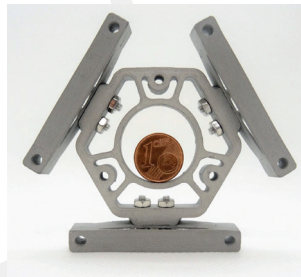
- High strength to weight ratio
- Low thermal conductivity
- Bio compatible
- Low CTE

APPLICATIONS

- Aeronautics
- Space
- Biomedical
- Luxury

SPECIFICATIONS

- Titanium: Ti6Al4V (Aerospace grade)
- Ultimate Tensile Strength, Rm (MPa): 940
- Bulk density (g/cc): 4.33
- Thermal Conductivity at 30°C (W/m-K): 6.8
- CTE (ppm/°C): 9.8



STAINLESS STEEL 316L

PROPERTIES

- High resistance to corrosion
- Chemical compatibility
- High temperature resistance
- Bio compatible
- Good mechanical properties

APPLICATIONS

- Marine
- Chemicals
- Biomedical
- Medical devices

SPECIFICATIONS

- Material: 316L Stainless Steel
- Bulk density (g/cc): 7.85
- Avg. Young's Modulus (GPa): 158
- Avg. Yield strength, $R_{p0.2}$ (MPa): 149
- Avg. Ultimate Tensile Strength, R_m (MPa): 485
- Standard for the tensile testing: ASTM E8/E8M
- Thermal Conductivity at 30°C (W/m-K): 16.2
- CTE (ppm/°C): 17.6
- Temperature range for CTE (°C): [-32, +397]



COPPER

PROPERTIES

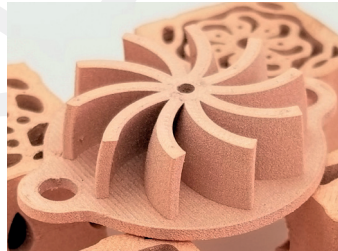
- Excellent electrical conductivity
- Thermal conductivity
- Corrosion resistance
- Antimicrobial Properties

APPLICATIONS

- Power transmission
- Heat transfer system
- Water pipe
- Healthcare

SPECIFICATIONS

- Purity of Copper: 99.8%
- Bulk density (g/cc): 8.4
- Thermal Conductivity at 30°C (W/m-K): 228
- CTE (ppm/°C): 18.71
- Temperature range for CTE (°C): [-50, +390]





3DCERAM TIWARI



info@3dceram.com

Sinto 3DCeram Tiwari GmbH
Rudower Chausse 29 - 12489 Berlin - Germany