

# 3D PRINTING CERAMIC FILAMENTS

Black Zirconia



Chemical composition	ZrO <sub>2</sub> · Y <sub>2</sub> O <sub>3</sub>
Density	98-99%
Final part hardness	8 GPa
Bending strength	400 -800 MPa
Shrinkage	21.5% (x et y) / 21.1% (z)

## Applications

Prototyping  Appearance parts  Wear resistance 

White Zirconia



Chemical composition	ZrO <sub>2</sub> · Y <sub>2</sub> O <sub>3</sub>
Density	98-99%
Final part hardness	10 GPa
Bending strength	600 - 1000 MPa
Shrinkage	21%

## Applications

Intern tooling  Appearance parts  Wear resistance 

Alumina



Chemical composition	Al <sub>2</sub> O <sub>3</sub>
Density	98-99%
Final part hardness	19 GPa
Bending strength	150 to 300 MPa
Shrinkage	19.7% (x et y) / 19.3% (z)

## Applications

Intern tooling  Extreme temperature  Corrosion resistance 

# METAL 3D PRINTING FILAMENTS

H13 steel



Chemical composition	X40CrMoV5-1
Density	90, 91%
Shrinkage	16.5% (x et y) 17.0% (z)

## Application

Intern tooling



Cold or hot working



Impact resistance



316L Stainless steel



Chemical composition	X2 CrNiMo 17 12 2
Density	90% 95%
Shrinkage	16.5% (x et y) 17.0% (z)

## Application

Intern tooling



Corrosion resistance



Impact resistance

