CONCR3DE
YOUR 3D POWDERHOUSE

CONCR3DE ALUMINA 99%

Material Data Sheet

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General properties

CONCR3DE Alumina 99% is a Plug-and-Play technical ceramic with outstanding mechanical, wear-resistant and heat-resistant properties. The higher purity of this porous Alumina 99% translates to better electrical and thermal properties than other Alumina options. CONCR3DE Alumina 99% is created in a two-step process. The first step is to 3D print Alumina powder with an aqueous binder to form a green object. Next, the 3D printed object is sintered to achieve the final material properties. CONCR3DE Alumina 99% parts are used in many different industries because of their heat resistance properties. Typical applications in the automotive, chemical, aerospace, energy sectors are kiln furnitures, wear components, refractories, crucibles, and pipe connectors.

Material benefits

This material has a number of advantages over alternative ceramic materials.

Sustainability	●	●	○	○	○
Safety	●	●	●	●	●
Chemical resistance	●	●	●	●	●
Temperature resistance	●	●	●	●	○
Accuracy	●	●	●	○	○
Strength	●	●	○	○	○

Printer compatibility

This material can be printed using our Armadillo Blue, Elephant Blue and Armadillo White 3D printers. Are you looking for even larger hardware options? Contact our team to learn more.

Material properties

The material properties below are the standard properties for CONCR3DE Alumina 99%. Our team can customize the properties for your specific use case or application. For more detailed or other information, please contact our material team.

DEVELOPED BY Nabaltec WZR ceramic solutions

Chemical composition	
Al_2O_3	99%
SiO_2 and others	1%

Mechanical properties	Standard	Armadillo Blue/Elephant Blue
Bending strength	N/A	20 MPa

Other properties	Standard	Armadillo Blue/Elephant Blue
Density	EN 632-2	1.670 kg/m³
Open porosity	EN 632-2	55%
Shrinkage	N/A	X and Y 4%, Z 6%

Notes

- Composition and mechanical properties may vary depending on the equipment used for sintering and debinding.
- Final material performances of 3D-printed objects are impacted by certain factors, including but not limited to part geometry and design, application, environment and more.
- Final 3D-printed objects are produced using certified CONCR3DE consumables. Use of alternate powders and binders compromise the mechanical properties.

CONCR3DE
Scheepsbouwweg 8 • 3089 JW Rotterdam • The Netherlands • +31 (0)85 0606 171 • info@concr3de.com • www.concr3de.com

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