

ExOne's 3D Printed 316 Stainless Steel is a corrosion resistant material that is easily machined and polished. This material offers high tensile strength and high temperature resistance.

Applications

- Firearms
- Tooling
- Consumer Goods
- Molds
- Injection Molding

Composition

Stainless Steel: Alloy 316

Printing

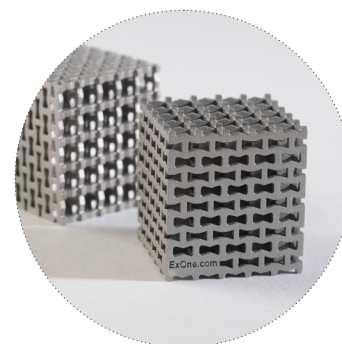
Using Binder Jetting technology, ExOne's state-of-the-art 3D Printing machines produce parts directly from CAD models by precisely controlling the jetting of binder onto a powder bed, and then subsequently spreading new layers of powder. This process is repeated until the part is completed. This 3D Printing process offers increased design flexibility, reduced manufacturing cost and shortened lead times.

Post Processing

After printing is complete, the parts are cured in an oven, which enables the parts to be handled. After curing, the parts are sintered in a vacuum furnace.



Printed part



Printed part

Typical Material Properties

Material Properties	Test Method	316
Tensile Strength		
Ultimate Strength	ASTM E8	75 ksi (517 MPa)
Yield Strength (0.2% offset)		31 ksi (214MPa)
Elastic Modulus		24 msi (165 GPa)
Elongation at Break		34%
Hardness	ASTM E18	74 HRB
Relative Density		96%+
Density		0.28 lb/in ³ (7.7 g/cm ³)

Geometric Capability	
Max. Dimensions	50 x 125 x 50 mm. (1.97 x 4.92 x 1.97 in.)
Corner Radius	Max. as design allows, 0.25 mm. (0.01 in.) min.
Wall Thickness	> 0.08 mm. (0.03 in.)
Holes	> 1 mm. (0.04 in.) depending on hole length
Accepted file formats	STL, STEP, X_T

The data and other information (Information) presented in this Data Sheet are provided by and are proprietary information of The ExOne Company (ExOne). ExOne presents this Information in the good faith belief that it is substantially accurate as of the date provided on this document. The Information is based upon utilizing ExOne's 3D printing machines and proprietary processes and technology. The material properties included in the Information are representative of materials so processed and do not constitute minimum specification standards. Materials processed on machines other than ExOne's and/or with different processes and/or technology may differ as to their properties. ExOne's research and developments efforts are ongoing and ExOne reserves the right to revise the information at any time without notice. ExOne does not provide any warranties or other obligations hereby, and will only provide such warranties or other obligations, if any, either in a definitive purchase contract executed by ExOne or in its standard terms and conditions of sale contained in an order acknowledgement.

For information about ExOne® systems, materials and applications, contact an ExOne **Production Service Center** or visit www.ExOne.com.

The ExOne Company
127 Industry Boulevard
North Huntingdon, PA 15642

MID-ATLANTIC: +1 877 773 9663

MIDWEST: +1 877 745 1580

SOUTH: +1 281 931 0011

SOUTHWEST: +1 702 487 3977

EUROPE: +1 877 745 1580

ASIA: +1 281 931 0011