

# Desktop Metal Qualifies D2 Tool Steel for Additive Manufacturing With the Production System

## Production System Binder Jetting Technology Enables Production of Cold Work Tool and Die Parts with High Hardness, Wear Resistance and Compressive Strength

BOSTON--(BUSINESS WIRE)-- Desktop Metal (NYSE: DM) today announced it has qualified the use of D2 tool steel for the Production System™ platform, which leverages patent pending Single Pass Jetting™ (SPJ) technology designed to achieve the fastest build speeds in the metal additive manufacturing industry. Businesses can now leverage SPJ technology for the production of parts in high-strength, high-temperature applications such as cold work metal forming tools, dies, and punches as well as injection molds with conformal cooling channels.

This press release features multimedia. View the full release here: <https://www.businesswire.com/news/home/20211123005537/en/>

Cams used in oil and gas or chemical processing applications convert rotary motion into reciprocating linear motion in a machine. D2 tool steel is critical for this application because of its hardness and corrosion resistance, which ensures a longer lifetime as the cam mechanically interacts with a sliding pin. In addition, because these components are often integrated into machines operating in harsh environments, the corrosion resistance provided by D2 ensures that the parts will perform as intended and not deteriorate.

D2 tool steel is a versatile high-carbon, high-chromium air-hardening tool steel characterized by its high hardness and compressive strength after heat treatment.

This tool steel also offers extremely high wear resistance properties, dimensional stability, and corrosion resistance in the hardened condition, a key benefit for conformal cooling applications. D2 is used for a wide variety of cold work tools that require a combination of wear resistance and moderate toughness, such as coining and sizing tool members, blanking and forming dies, shear cutting tools, gauges, burnishing tools, and other wear parts.

“Our materials science team is constantly working to develop new materials and processes to make 3D printing accessible to all industries and applications,” said Jonah Myerberg, co-founder and CTO of Desktop Metal. “We are responding to the demand from our customers across manufacturing and industrial industries for materials like D2 tool steel that enable the production of critical forming and cutting tools, and in various other applications where high hardness is valued.”

Desktop Metal’s materials science team has qualified and fully characterized D2 tool steel printed on Production System technology in accordance with ASTM testing requirements.

- **Rotating Cam**

Cams used in oil and gas or chemical processing applications convert rotary motion into reciprocating linear motion in a machine. Typically these parts require multiple manufacturing steps, beginning with CNC machining and followed by broaching of the spline on a separate machine. Binder jetting enables the production of cams in a single printing step, reducing both the cost and lead time of the part, while also supporting the production of numerous cam sizes in a single build to accommodate different machines, all without any fixturing or tooling required. D2 tool steel is critical for this application because of its hardness and corrosion resistance, which ensures a longer lifetime as the cam mechanically interacts with a sliding pin. In addition, because these components are often integrated into machines operating in harsh environments, the corrosion resistance provided by D2 ensures that the parts will perform as intended and not deteriorate.

### **The Production System - World's Fastest Way to 3D Print Metal Parts At-Scale**

Created by the inventors of binder jetting and single-pass inkjet technology, the Production System is an industrial manufacturing platform powered by Desktop Metal's SPJ technology. It is designed to achieve speeds up to 100 times those of legacy powder bed fusion additive manufacturing technologies and enable production quantities of up to millions of parts per year at costs competitive with conventional mass production techniques.

The Production System platform consists of two printer models: the P-1, a solution for process development and serial production applications, and the P-50, a large form factor mass production solution for end-use parts. The Production System combines Desktop Metal engineered binders with an open material platform, allowing customers to produce high-performance parts using the same low-cost metal powders used in the Metal Injection Molding (MIM) industry. An inert processing environment enables compatibility with a variety of materials, including high-performance alloys and even reactive metal powders, such as aluminum and titanium. To learn more about the Production System, visit: [www.desktopmetal.com/products/production](http://www.desktopmetal.com/products/production).

In addition to D2, the materials library for the Production System platform has expanded to include 420 stainless steel, nickel alloy IN625, 4140 low-alloy steel, 316L stainless steel, and 17-4PH stainless steel, each of which have been qualified by Desktop Metal. The platform also supports several customer-qualified materials, including silver and gold, and Desktop Metal plans to add additional metals to its portfolio, including tool steels, stainless steels, superalloys, copper, and more.

To learn more about D2 and the Production System materials portfolio, visit: [www.desktopmetal.com/materials](http://www.desktopmetal.com/materials).

### **About Desktop Metal**

Desktop Metal, Inc., based in Burlington, Massachusetts, is accelerating the transformation of manufacturing with an expansive portfolio of 3D printing solutions, from rapid prototyping to mass production. Founded in 2015 by leaders in advanced manufacturing, metallurgy, and robotics, the company is addressing the unmet challenges of speed, cost, and quality to make additive manufacturing an essential tool for engineers and manufacturers around the world. Desktop Metal was selected as one of the world's 30 most promising Technology Pioneers by the World Economic Forum, named to MIT Technology Review's list of 50 Smartest Companies, and the 2021 winner of Fast Company's Innovation by Design Award

in materials. For more information, visit [www.desktopmetal.com](http://www.desktopmetal.com).

### **Forward-looking Statements**

This press release contains certain forward-looking statements within the meaning of the federal securities laws. Forward-looking statements generally are identified by the words “believe,” “project,” “expect,” “anticipate,” “estimate,” “intend,” “strategy,” “future,” “opportunity,” “plan,” “may,” “should,” “will,” “would,” “will be,” “will continue,” “will likely result,” and similar expressions. Forward-looking statements are predictions, projections and other statements about future events that are based on current expectations and assumptions and, as a result, are subject to risks, uncertainties. Many factors could cause actual future events to differ materially from the forward-looking statements in this document, including but not limited to, the risks and uncertainties set forth in Desktop Metal, Inc.'s filings with the U.S. Securities and Exchange Commission. These filings identify and address other important risks and uncertainties that could cause actual events and results to differ materially from those contained in the forward-looking statements. Forward-looking statements speak only as of the date they are made. Readers are cautioned not to put undue reliance on forward-looking statements, and Desktop Metal, Inc. assumes no obligation and does not intend to update or revise these forward-looking statements, whether as a result of new information, future events, or otherwise.

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