

TECHNOLOGY CHARACTERISTICS

# Metal Binder Jetting

 dsb



## METAL BINDER JETTING

# Technology Characteristics

Complimenting its existing technology portfolio, SSI Sintered Specialties now designs and manufactures complex part designs for serial production through metal Binder Jetting.

### **MATERIAL AVAILABILITY**

Material options for metal Binder Jetting are open to a wide range of opportunities. SSI is exploring applications in stainless steels, low alloy steels, specialty alloys, and reactive materials, among others.

### **DESIGN FEATURES:**

- **Designs with nearly limitless 3D complexity possibilities:**
  - Geometries not previously possible or economical
  - Greater complexity and better surface finish & feature details compared to investment casting designs
  - Ability to combine multiple parts into one
  - Geometries that are difficult to produce in hard tooling (worm gears)
  - Labeling: partner numbers, names & logos
  - Internal structures (channels, cavities, etc.)
  - Internal undercuts
  - Holes of any shape at angles to one another
  - Minimum printed hole size: 1.5 mm
  - Bracing structures to provide extra part strength
  - Light weighting: only putting material where needed
  - Support structures help manage sintering shrinkage and distortion

### **DIMENSIONAL PRECISION**

+/- 0.75% printed; +/- 1.0% sintered

### **MINIMUM WALL THICKNESS**

Minimum wall thickness is 1.0 mm, depending on part geometry and green strength after printing.

### **TOOLING**

There is no tooling required with metal Binder Jetting.

## METAL BINDER JETTING

# Technology Characteristics

### EXONE'S X1 160PRO:

- Build space: 800 x 500 x 400 mm
- Suitable for serial output
- Installation to DSB's production floor
  - Serial volume production



### EXONE'S X1 INNOVENTPRO:

- Build space: 220 x 125 x 100 mm
- Suitable for R&D and prototyping
- Installation to DSB's Technology Center
  - Application & material development

