creo®

ADDITIVE MANUFACTURING CAPABILITIES IN CREO

CREO CLOSES THE GAP BETWEEN 3D CAD AND ADDITIVE MANUFACTURING.
WITH CREO, WHAT YOU DESIGN IS ACTUALLY WHAT YOU PRINT.

With Creo you can design, optimize, validate, and run a print-check all in one environment, reducing overall process time, tedium, and mistakes. When you're ready, simply send the file straight to the 3D printer.* You can design for additive manufacturing in polymers and in metal and then connect directly to your chosen printer with its optimized printer profile and support structures. No switching between software packages, and no hassle. Our metal printing capabilities cover 70% of the metal printers currently on the market.

ptc

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>>> THE CREO ADVANTAGE

Creo is a 3D CAD solution that helps you build better products faster by accelerating product innovation, reusing the best of your design and replacing assumptions with facts. Go from the earliest phases of product design to a smart, connected product with Creo. And with augmented reality in each seat of Creo, everyone can easily visualize your designs. In the fast-changing world of the Industrial IoT, no other company can get you to substantial value as quickly and effectively as PTC.

Description	Creo 4.0	Creo 5.0
Creo Parametric		
• Direct Connect to Stratasys Plastic Printers	✓	✓
• Direct Connect to 3D System Plastic Printers	✓	✓
• Direct Connect to i.materialize Print Bureau	✓	✓
• Direct Connect to Plastic Printers in the Materialise Library		✓
• Direct Connect to 3D Systems ODM Print Bureau		✓
Creo Additive Manufacturing Extension		
• Lattice Modeling	✓	✓
• Modify, Manage and Save Print Tray Assemblies	✓	✓
• Automatic Positioning and Nesting in Print Tray Assemblies	✓	✓
• Global Interference Check	✓	✓
Creo Additive Manufacturing Plus Extension for Materialise		
• Direct Connect to Metal Printers in the Materialise Library		✓
• Generate and Customize Metal Support Structures		✓
Creo Topology Optimization Extension		
• Topology Optimization		✓
• Semi-Auto Geometry Conversion		✓

Please visit the PTC support page for the most up-to-date platform support and system requirements.

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CREO ADDITIVE MANUFACTURING CAPABILITIES:

CREO PARAMETRIC >>>

Direct Connect to Stratasys Plastic Printers

- Out-of-the-box (OOTB) functionality: print parts, assign materials, colors, and calculate build and building material directly from Creo.

Direct Connect to 3D Systems Plastic Printers

- OOTB functionality: print parts, assign materials, colors, and calculate build and building material directly from Creo.

Direct Connect to i.materialise Print Bureau

- Ability to get immediate quotations
- Ability to direct order parts from i.materialise

Direct Connect to Plastic Printers in the Materialise Library

- OOTB functionality: print plastic parts directly from Creo
- Manage print drivers and profiles for plastic printers in the library
- Ability to print support structures requires *Creo Additive Manufacturing Plus Extension for Materialise*
- Materialise provides optimized printer profiles for each printer in the Materialise library. Build processors available from Materialise.

Direct Connect to 3D Systems On Demand Manufacturing (ODM) Print Bureau

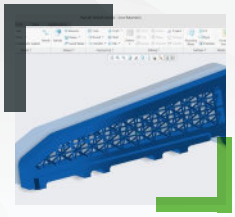
- Ability to get immediate quotation
- Ability to order parts directly from 3D systems ODM

PTC Additive Manufacturing Partners

stratasys 3D SYSTEMS 3D SYSTEMS On Demand Manufacturing materialise i.materialise

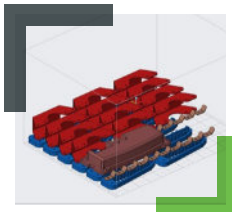
CREO ADDITIVE MANUFACTURING CAPABILITIES:

CREO ADDITIVE MANUFACTURING EXTENSION >>>



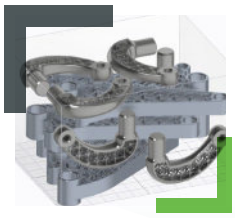
Lattice Modeling

- Create parametrically-controlled lattice structures, fully-detailed parts with accurate mass properties. With variability control you can optimize the lattices to achieve your engineering goal.



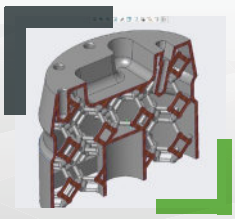
Create, Modify, Manage, and Save Print Tray Assemblies

- Define print tray specific to printer, where the tray assembly is the repository for the 3D print job.
- Add parts at any time, define positioning and rotations, assign materials/ colors, etc.



Automatic Positioning and Nesting in Print Tray Assemblies

- Create parametrically-controlled lattice structures, fully-detailed parts with accurate mass properties.
- Optimize the orientation of parts in print tray according to printer specifications.
- Nest parts in print tray assemblies (assumes printer supports nested parts).
- With variability control you can optimize the lattices to achieve your engineering goal.

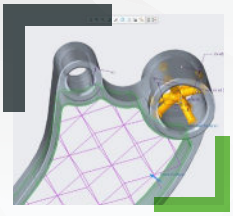


Global interference checks

- Check whether components will interfere with one another.

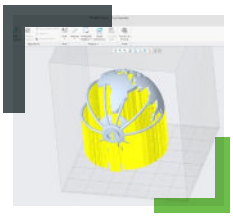
CREO ADDITIVE MANUFACTURING CAPABILITIES:

CREO ADDITIVE MANUFACTURING PLUS EXTENSION FOR MATERIALISE >>>



Direct Connect to Metal Printers in the Materialise Library

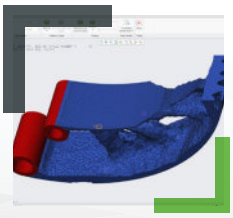
- Out-of-the-box (OOTB) functionality: print parts, assign materials, colors, and calculate build and building material directly from Creo.
- Optimized printer profiles for every printer in the Materialise library. Build processor available from Materialise.



Generate and Customize Metal Support Structures

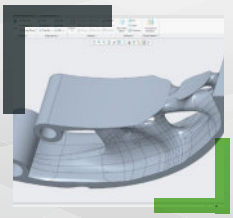
- Materialise-based Support Structures (point, line, gusset, web, contour & block) are generated in the tray assembly once the part is placed in the tray and the printer is selected.
- Supports are created in Creo and update when models are changed.
- Support parameters are dependent on the specific printer, and modifiable by the user.
- Users can modify specific support structures if needed.

CREO TOPOLOGY OPTIMIZATION EXTENSION >>>



Topology Optimization

- Easily find the best material distribution in a given design space.
- Save weight, lower costs, and encourage innovation.
- Fast optimization set-up.
- Rapid concept development.
- Ability to stay within the Creo design environment processes.



Semi-automatic Geometry Conversion

- Rapidly convert topology optimization results into rich CAD data.