

Creo™ Elements/Direct™ Surfacing

ADVANCED STYLING FOR CREATING COMPLEX SHAPES WITH EASE

Formerly CoCreate®

Creo Elements/Direct Surfacing helps you add more style and easily create complex designs.

Explore and create freeform shapes and organic designs with the surfacing capabilities available with Creo Elements/Direct Modeling™. Creo Elements/Direct Surfacing is a specialized add-on module—ideal for companies that want to use lightweight design methods to take style and ergonomic shapes to a new level.

Flexible add-on surfacing functionality

Tap into the flexible capabilities of the Creo Elements/Direct Surfacing add-on module to create amazing, high-quality surfaces and stylized forms for product and industrial design applications. You can even use surface-editing commands with 3D design data created from any other 3D CAD system, highlighting the unparalleled interoperability strengths of Creo Elements/Direct Modeling, the world's #1 direct 3D CAD system.

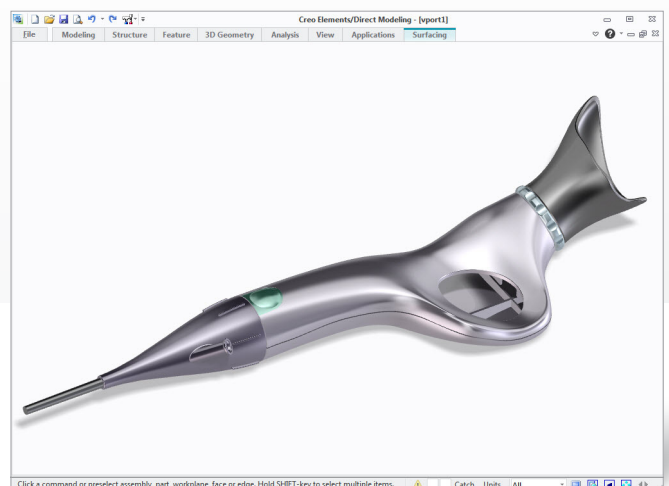
Analyze and repair surfaces

With the dynamic analysis tools included in Creo Elements/Direct Surfacing, you can analyze your surfaces either when your design is complete or while in-process. An analysis typically checks the curvature of surfaces in real time at any point along an edge, and makes sure your surfaces are of the highest quality.

The surface repair tool works on native and imported models in the same way. Clean up imported data as you work with native models, automatically detect gaps, and repair designs from other CAD systems.

Key Benefits

- Enables straightforward creation of parts with sculptured shapes by merely referencing planar or non-planar curves
- Enables fast generation of solid or surface models
- Lets you easily modify a solid model using surface tools
- Assists in repairing imported, incomplete solids to create valid solid models
- Encourages surface analysis, to design products with highest surface quality



Creo Elements/Direct Surfacing is a flexible add-on module for Creo Elements/Direct Modeling, the world's #1 direct 3D CAD system.

Features and Specifications

Create and modify surfaces

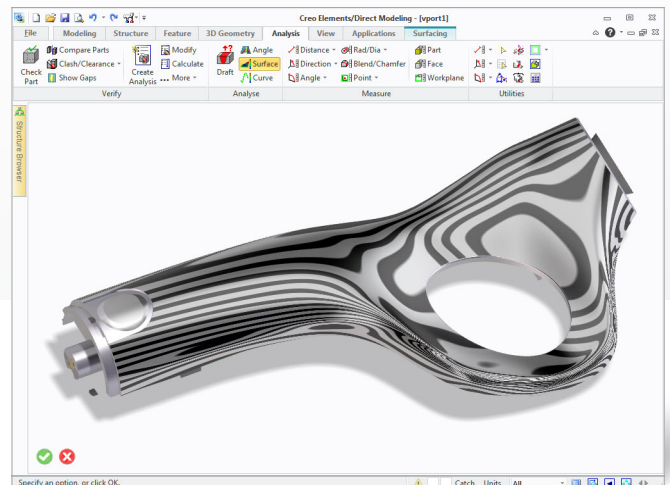
- Skinning—create a face from a mesh of 2D and 3D edges
- Guided loft—create surfaces by moving one or more profiles along a guiding spine and one or two bi-rail curves
- Capping—design a smooth cap on top of an existing closed loop of edges
- Bridge creation—connect two parts through a set of faces
- Advanced sweeping—sweep any profile along guiding spines while controlling orientation and scaling
- Face round—create blend-like face chains to tangentially connect two face sets
- Dynamic surface modification—manipulate any surface dynamically and retain a solid model
- Extrude edges—extrude planar or non-planar edges (2D or 3D) in a specific direction
- Adjust faces—improve the tangent plane continuity across given edges
- Curvature continuity (G2) of faces along edges—use on skinning, bridge creation, guided loft, and face round
- Advanced editing of surfaces with support of wire modification (requires add-on: Creo Elements/Direct Advanced Design)

Create solid models from a set of surfaces

- Thicken—create a solid model from a set of faces and an offset value
- Extrude—sweep a set of faces linearly by a distance and draft angle
- Offset—manipulate a set of faces by an offset

Analyze surfaces

- Dynamically analyze surfaces when complete, or while in process
- Analyze and visualize the curvature of surfaces with:
 - Gauss curvature (color-coded)
 - Mean curvature (color-coded)
 - Zebra stripes
 - Analyze angles
 - In real time
 - At any point along an edge



Leverage [Creo Elements/Direct Surfacing](#) to dynamically analyze surfaces and visualize curvature.

Improve surface quality

- Create, modify, and analyze surfaces, and design ergonomic products, with confidence

Work on imported designs

- Work on imported models as if they were native:
 - All operations also work on designs imported through standard interfaces or optional CAD interfaces
 - Automatic detection of gaps in the design
 - Ideal for repairing designs coming from other CAD systems

Prerequisites

- Creo Elements/Direct Modeling

Platform requirements

- Windows® 7 32-bit and 64-bit Editions of Ultimate, Enterprise, and Professional
- Windows Vista® 32-bit and 64-bit Editions of Ultimate, Enterprise, and Business
- Windows XP® Professional 32-bit and 64-bit Editions

For the most up-to-date platform support information, visit:

PTC.com/partners/hardware/current/support.htm

For more information, visit:

PTC.com/products/creo-elements-direct/

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