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SIEMENS

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Solid Edge Subdivision Modeling

Facilitating intuitive stylized shape and advanced subdivision modeling creation

Benefits

- Facilitate intuitive stylized shape and advanced subdivision modeling creation
- Enable unique product development based on organic shapes
- Rapidly conceptualize ideas with ease and adapt to change
- Provide intuitive conceptual design for everyone from novices to experts

Features

- Easy-to-use yet powerful stylized design tools
- Intuitive freeform modeling to create stylized shapes
- Works within the Solid Edge environment

Summary

Solid Edge® software Subdivision Modeling from Siemens Digital Industries Software is an intuitive freeform modeling toolset that helps you develop unique products based on organic shapes. The technology makes it easier for anyone, even those who aren't experienced in computer-aided design (CAD) technology, to work with sophisticated design software to develop high-quality advanced shapes. Similar to technology that has been proven in the entertainment industry, subdivision modeling has been adopted to suit manufacturing industry needs.

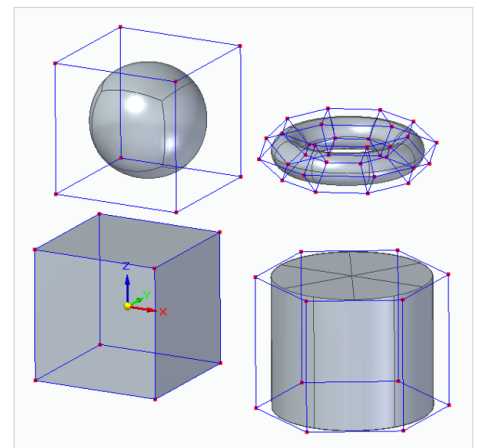
Subdivision modeling is an easy way to create complex geometry, which can be subdivided to give a shape flexibility. By continuously manipulating and subdividing an initial shape, you can add greater levels of detail to your design.

Revolutionary approach to shape development

Solid Edge Subdivision Modeling makes it easy to work with complex surfaces. The application generates a stylized body using a polygonal cage to control its shape, allowing you to quickly capture and refine concepts. This provides a

higher level of control over a design's form than when using polygons alone. Users select from a variety of primitive shapes (box, cylinder, sphere or torus) to create the first cage, then manipulate the form using the steering wheel provided in Solid Edge to modify its shape.

Control cages contain vertices, edges and faces. The body is produced by generating a set of rules that is repeatedly applied to each polygonal edge or vertex to generate the next level polygon's vertices and connectivity. Selection filters allow priority selection of faces, edges or vertices. Vertices, edges and faces can be pulled to develop a unique shape. Box and cylinder shapes allow sharp edges in conjunction with smooth flowing surfaces.



The resulting complex organic shapes (solids and surfaces) are high quality, editable and suited for use by all downstream consumers of CAD data.

Solid Edge Subdivision Modeling

Stylized, complex designs created with subdivision modeling can be easily consumed into Solid Edge CAM, simulation and technical publication applications. No data conversion is required, and there's no need to leave the Solid Edge environment.

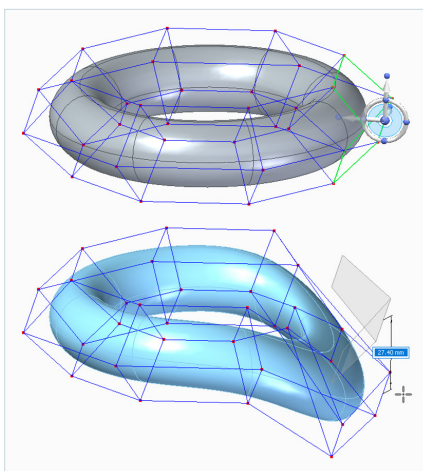
Since subdivision features can contain multiple cages, Solid Edge Subdivision Modeling includes a cage body collector within the environment. The names of the cage and subdivision bodies are synched so if one changes the other does as well. Users can even change the color and size of edges and vertices.

Commands that allow you to model without compromise

Shapes can be manipulated using a variety of built-in operations:

- *Move and rotate* – Conducted using the steering wheel with tip being the default operation. Filters help users to quickly select only the desired elements of the cage
- *QuickMove* – Moves a vertex without the use of a steering wheel to quickly fine-tune shapes and vertex locations
- *Move and rotate with lift* – Creates new faces when elements of the cage are moved or rotated
- *Blend* – Allows users to set blend values to edges and vertices to better control the body shape. The show blend value command displays the blend values for edges and vertices of the model
- *Show/hide feature* – Allows the user to show or hide all bodies or cages in the subdivision feature being created or edited

- *Split* – Allows users to split cage faces to add detail to the cage and body. Single and chain options are available
- *Scale* – Operates on any element of the cage, faces, edges or vertices. User may choose linear, planar or 3-axes scaling. Planar and 3-axes can be uniform or nonuniform
- *Symmetry* – Allows the user to define a mirror plane for cage symmetry. Cages are mirrored about the symmetry plane. Edits done on the parent side are reflected on the mirrored side. Symmetry can be turned off, resulting in a complete cage for the body
- *Delete and fill* – Allows the user to remove or add faces to existing subdivision cages. If faces are removed, the subdivision cage is open and the body becomes a surface body. Body topology modifications are reflected in Pathfinder



Existing faces are moved by manipulating control cages, as shown in these move and rotate and tip operations.

Subdivision features can be copied and pasted outside the subdivision environment. You can copy and paste in both ordered and synchronous environments. The entire feature is copied and pasted. Features can be added to a feature library to store commonly used subdivision shapes.

Extending value

Solid Edge is a portfolio of affordable, easy-to-deploy, maintain and use software tools that advance all aspects of the product development process – mechanical and electrical design, simulation, manufacturing, technical documentation, data management and cloud-based collaboration.

Hardware system requirements

- Windows 10 Enterprise or Professional (64-bit only) version 1809 or later
- 16 gigabytes (GB) random access memory (RAM) for commercial use and 8 GB RAM for academic use
- 65K colors
- Screen resolution: 1920 x 1080
- 8.5 GB of disk space required for installation

Siemens Digital Industries Software
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