

CATIA Generative Shape Optimizer

Companies need simple and ergonomic tools to rapidly morph shapes without altering their quality at any time during the design process.

CATIA Generative Shape Optimizer embeds one-of-a-kind, breakthrough technologies that enable users to quickly perform global morphing on complex shapes. In addition, users can interactively deform shapes. This easy-to-use environment helps designers to significantly increase productivity in order to optimize product or tooling definitions and speed up the design process.

Key capabilities

Wrapping capabilities for global deformation

The Wrap Curve function allows the global deformation of a surface respecting a computed law between two nets of curves (reference and target). The Tangency constraints can be kept on the first and last curves. Wrap Surface allows a global deformation of a surface while respecting computed law.

Deform surfaces with Shape Morphing

This function permits the deformation of an existing shape through defined constraints. Points can be sent to target points; Reference curves can be sent to target curves with a given level of continuity with adjacent elements (G0, G1); Limit curve determines the area of the deformation and allows any part of the "body to deform" to remain frozen (with additional G0, G1, G2 constraints).

Deform a surface locally with the Bump function

This makes it possible to locally deform a surface using the form of a bulge or hollow. It can be manipulated through the point and tension parameters.

Variable offset feature

Manages offset non-tangent piecewise skins with different values. Allows automatic joining of the resulting areas if the result quality allows it (G1 connections). Provides high quality surface creation and productivity gains, especially in plastic industries.

Rough offset feature

This flexible offsetting function produces offset surfaces on shapes with constraints, extending offset capabilities in order to perform a global offset on complex shapes.

Develop function

Allows the transfer of multiple curves or points laid on a revolution surface onto a plane surface.

Perform Diabolo Seat on volumes and solids

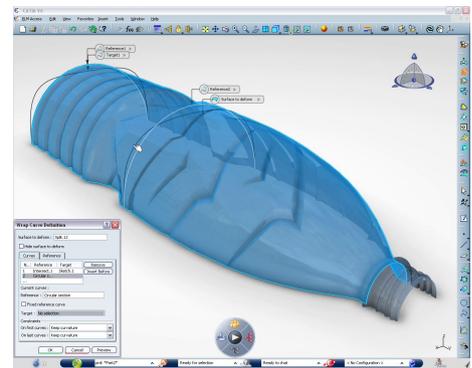
Customer benefits

- Perform local or global deformation on complex shapes without altering the model's quality
- Improve productivity with process-centric breakthroughs
- Transfer multiple curves or points laid on a revolution surface on a plane surface and vice versa
- Experience faster design-to-manufacturing

Provides the Body in White community a functional feature very often used in any parts in just a few clicks. Diabolo Seat can be performed on volumes and solids.

Link up several sections with the Junction feature

This high-level feature makes it possible to join surfaces, or to link up several sections (isotopologic or not) with tangency management, significantly increasing productivity.



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