



ICEM Surf Overview

ICEM Surf modules for surface modelling excellence

ICEM Surf Professional

ICEM Surf Professional is the base module of ICEM Surf for creation and modification of demanding free-form surfaces. In a very short time you can model components with surfaces that are doubly curved and smooth at the same time. Unique construction and modelling tools with integrated real-time diagnosis rapidly lead you to the desired results. Therefore ICEM Surf is often described as the reference system for the creation of Class-A surfaces.

ICEM Surf Master

The functions of the ICEM Surf Master module focus on global filleting, overcrowning and global connections of surfaces. The function Feature Design also becomes available, where static pre-defined form changes can be applied globally to surface models. With this function complete models can be modified in one operation, while all surface structures, connections and design features are maintained. Existing designs can be quickly and easily fitted to new or modified references, for consistent design integrity and engineering data re-use.

ICEM Surf Magic

ICEM Surf Magic provides additional tools for surface construction, and makes global dynamic design and modelling of complex surface models possible. Entire components or component sections, consisting of multiple surfaces can be changed dynamically as a unit. Surfaces may also be re-fitted or projected onto reference data.

ICEM Surf Realtime Rendering

ICEM Surf's Realtime Rendering module is used for live presentations and design assessments. The CAD model can be moved dynamically while maintaining the photo-realistic representation. If the module ICEM Surf Magic is also available, the unique concept of Reality Modelling becomes possible, where the user can perform rapid dynamic form changes to the model, whilst keeping the photo-realistic effects of reflection, textures, transparency and shadows continually active. This module also includes an integrated library for materials and textures.

ICEM Surf Scan Modelling

ICEM Surf Scan Modelling allows the user to efficiently handle dense, ordered, or random point clouds generated by automatic laser and photo digitisers. It enables you to directly, locally or globally, model point clouds or facet data. This function is also called Clay Modelling.

ICEM Surf Quick Surfacing

ICEM Surf Quick Surfacing becomes very useful when you must create surfaces, very quickly, from point clouds, curves or facet data. User defined sections and/or curves, together with a facet model are used for the initial quick surface creation. Surfaces generated automatically by Quick Surfacing can be used downstream with software packages that cannot support facets or do not need Class-A finished surfaces (e.g. CFD, tooling or packaging analysis, etc). More interactive techniques can also produce near Class-A quality very quickly, which can be finished with standard ICEM Surf methods, if necessary.

ICEM Surf Advanced Tools

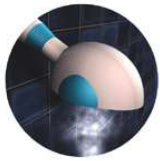
These functions allow to create Accelerated Surfaces and to create (with the tube function) and diagnose car body gaps. The levelling analysis function enables to check the homogeneity of a surface area compared to a reference area. Another diagnosis function allows checking for unwanted flat areas in a surface model. An additional function called "nominal actual value comparison" checks for the deviation of e.g. a surface to scan data. The helix function allows the construction of movable automotive side window glasses.

ICEM Surf Safety Analysis

ICEM Surf Safety Analysis was developed primarily for safety studies in the automotive industry, but has many other applications where humans need to operate in a man-made environment. It provides digital tools, which can detect edges and corners on a 3D model that may cause injuries. It subsequently analyses and highlights the radii in those zones, which are defined as dangerous, based on the specified industry-standard safety criteria.

ICEM Surf Viewer

ICEM Surf Viewer is a standalone software tool used for viewing and presenting 3D CAD models that are exported from ICEM Surf databases. The standalone Viewer software is free of charge. The Export to Viewer function within ICEM Surf is a cost option.





ICEM Surf PLM Link

ICEM Surf PLM Link will enable ICEM Surf users to seamlessly integrate the software into any existing PLM (Product Lifecycle Management) environment. It also allows timesaving offline access to further ICEM utilities for checking quality and data conversion.

ICEM Surf Synergy

This add-on module allows two ICEM Surf users to work simultaneously on the same design, even though they might be physically far apart. Before the work session starts the data must be transferred, and then the input of one user can be observed by the other, in the remote location. With a simultaneous phone call, ICEM Surf Synergy offers the possibility to demonstrate and discuss issues between remote ICEM Surf users, so that costly business trips can be avoided.

ICEM Surf Grid

ICEM Surf Grid provides ICEM Surf User a direct access to the object-based tetrahedral meshing module ICEM CFD of the company ICEM CFD Engineering. This module allows users to optimize the faceting of existing scans and to create meshes on surfaces. The meshes can then be used in simulation programs to perform FEM analyses, to export the geometry in STL-format for rapid prototyping applications, or to export data in Inventor format for product presentation.

ICEM Surf Direct-Interfaces

Direct Interfaces can translate CAD data out of the sending system directly into the data format of the receiving system, without a neutral file.

ICEM Surf Standard-Interfaces

By using standard interfaces, data sharing between different CAD systems is made possible. The source system can translate its data into a neutral format, so a different CAD system can import this neutral data, and accurately convert it into its own native format.

ICEM Surf Reverse Engineering Package:

Bundle consisting of the modules ICEM Surf Professional and ICEM Surf Scan Modelling.

ICEM Surf Virtual Modelling Package:

Bundle consisting of the modules: ICEM Surf Professional, ICEM Surf Magic, ICEM Surf Master and ICEM Surf Scan Modelling.

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