



ICEM SurfTM 2000*i*

CDRSTM 2000*i*

3DPAINTTM 2000*i*

The Next Generation is Here.

ICEM Surfacing Center of Excellence

Surfacing Solutions from the Leader in Class A Surfacing

The ICEM™ Surfacing Center of Excellence provides innovative, comprehensive technical surfacing solutions – solutions that define the next generation in surfacing technology. Using the extensive array of capabilities inherent to ICEM Surf™ 2000*i*, CDRS™ 2000*i*, and 3DPAINT™ 2000*i*, the ICEM Surfacing Center creates comprehensive surfacing solutions for industrial design, production surface development, and engineering.



A Global Team of Experts

In today's electrified technological environment, success depends on more than the best tools – it depends on the best solutions. This is the concept behind the ICEM Surfacing Center of Excellence, a focused team of experts dedicated to discovering solutions that optimize your productivity, improves the quality of your products and heightens your competitiveness. Whether you require on-site consulting, a training class to advance your skills, or assistance with a technical question, turn to the ICEM Surfacing Center for the solution.

Optimum Interoperability

The ICEM Styling and Surfacing suite is a member of the PTC *i*-Series, a continuum of seamlessly integrated product development applications that maximize productivity and support real-world performance. PTC's Associative Topology Bus™ (ATB) integration protocol provides these applications with uncompromising interoperability and flexibility. These functionally diverse, activity-specific applications share a high level of design intent, which promotes stronger collaborations and increases productivity across the enterprise.



Image courtesy of Ford Motor Company

Art to Part

Transforming innovative ideas into innovative products. This is what ICEM Styling and Surfacing products do best and what is required to achieve the highly stylized shapes demanded by today's consumers. Automotive, consumer product, and tool design industries worldwide rely on the ICEM Styling and Surfacing products for complex surface modeling and analysis.



The ICEM Styling and Surfacing suite provides solutions from conceptual design through manufacturing – solutions that facilitate the creation of innovative designs that are immediately ready for manufacture – solutions that shorten the design process – solutions that reduce costs.

- 3DPAINT - a digitized sketching and painting tool that helps designers visualize their ideas quickly and easily with seamless integration to CDRS
- CDRS - a free-form conceptual design application that empowers designers to quickly create a 3D model from scratch, using a 2D sketch, or engineering criteria.*
- ICEM Surf — a focused free-form surfacing tool, specializing in Class A surfacing, that addresses feasibility issues by assisting manufacturing with surface evaluations.*

3DPAINT 2000*i*

3DPAINT's familiar ensemble of 2D/3D sketching and painting tools (real-time pencils, brushes and airbrushes) affords designers the freedom to explore hundreds of concept iterations in a fraction of the time required by traditional tools. Use advanced image manipulation tools to dynamically experiment with existing sketches and images without recreating them.

3DPAINT is fully integrated with CDRS, making the transfer of a 2D sketch to CDRS a simple one-step operation – place the 2D sketch directly into the TraceSketch views in CDRS. CDRS maintains the design intent by using the sketch as a guide to create the 3D model, which is returned to 3DPAINT to receive design details. In 3DPAINT, the designer paints directly on the 3D model, easily exploring design iterations by applying color, texture maps, bump maps, text, and other design details without modeling them in. The painted model can then be rendered inside of 3DPAINT, providing the designer with a realistic view of the model, which is ideal for presentations and design reviews.



*Surface data from both CDRS and ICEM Surf is directly transferable to Pro/ENGINEER® using the ATB.

CDRS 2000i

CDRS incorporates the tools necessary to build free-form conceptual models with accurate, manufacturable surfaces. Whether creating a 3D model from scratch, working from a concept sketch, or building around engineering data, CDRS has easy-to-use tools required to create any shape – exactly.

Warp functionality gives designers the freedom to quickly investigate design alternatives by twisting, bending, tapering and stretching their 3D models – all while maintaining the production quality of the surfaces. Advanced visualization tools, such as fast, accurate photorealistic renderings, produce models that are ideal for design reviews, customer presentations, and focus group gatherings – at any stage in the design process.

As the only conceptual design tool to offer seamless integration with Pro/ENGINEER, CDRS facilitates early communication between designers and engineers to ensure the best possible design – one that meets all of the engineering criteria. Add manufacturing features to the CDRS surfaces by simply placing the CDRS model directly into Pro/ENGINEER. Such high-level integration fosters the flawless transfer

of the project to production –

without the loss

of time or design intent, two common pitfalls of rework.

ICEM Surf 2000i

ICEM Surf reigns as the benchmark by which all Class A surfacing products are measured. The program's flexibility simplifies the production of the high-quality surfaces required in today's design environment – while substantially reducing overall design time. The key to this benchmark performance is

the creation of simple, yet highly accurate surface models built from a lean, manageable database that keeps the user in total control at all times.

Product development teams using ICEM Surf leave the traditional process behind. ICEM Surf's interactive environment, called Virtual Modeling, allows users to work out feasibility issues to the satisfaction of the artist as well as the engineer. Only ICEM Surf supports the direct modeling techniques that substantially reduce the update cycles in designing and engineering.

For the designer, Global Modeling enables interactive and dynamic modification of whole detailed models – a powerful tool for aesthetic designers determined to work out a design solution. For the engineer, Feature Modeling enables the effortless adaptation of structural surfaces to the modified aesthetic surface. As surfaces are directly manipulated, surface diagnostics are dynamically updated. This approach results in unparalleled surface quality and enables designers and engineers to quickly converge on production-quality surfaces.

ICEM Surf excels in the area of reverse engineering with robust functionality to handle the input of digitized physical models in a fraction of the time required by other systems. ICEM Surf Scan allows the user to efficiently handle dense, ordered or random point clouds; while ICEM Surf Clay provides enhanced Global Modeling for scans.

ICEM Surf bridges the demands between aesthetic designers and production engineers. In addition to Pro/ENGINEER, ICEM Surf supports a comprehensive set of direct and standard CAD interfaces. The availability of these interfaces allows ICEM Surf to easily fit into any CAD/CAM environment.

**ICEM Styling and Surfacing solutions...
the most innovative tools in the industry**

Image courtesy of Altitude Inc.

Image courtesy of Insight Product Development Inc.

Image courtesy of PSA Peugeot Citroën

Model courtesy of Audi AG Ingolstadt.



Imagine.

industry leading



Image courtesy of Italdesign S.p.A.



Image courtesy of therefore Design Consultancy, Ltd.

individualized



Image courtesy of Ford Motor Company

interoperable

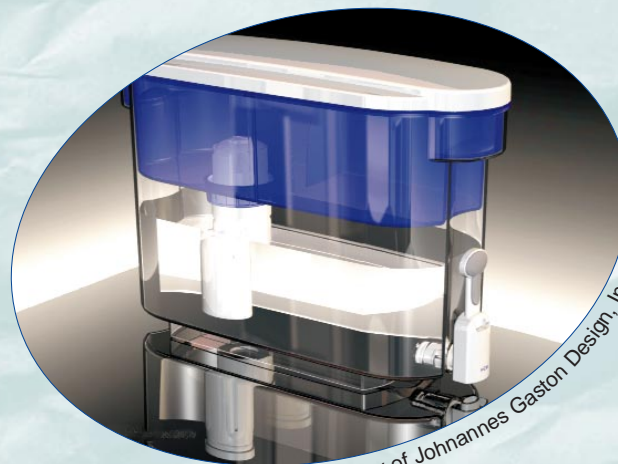


Image courtesy of Johannes Gaston Design, Inc.

innovative

intuitive



Image courtesy of Ford Motor Company



CDRS 2000i

ICEM Surf 2000i

3DPAINT 2000i



www.icem.com

icem.technologies@ptc.com

For Information

ICEM Technologies, Inc.
A subsidiary of Parametric Technology Corporation
1210 County Road E West
Arden Hills, MN 55112-3739 USA
Phone: +1 651 765-3000
FAX: +1 651 415 0919

North America

ICEM Technologies GmbH
A subsidiary of Parametric Technology Corporation
Siemensstrasse 9
63263 Neu-Isenburg Germany
Phone: +49 6102-782-820
Fax: +49 6102-782-830

Europe

MKT-BRICEM899-EN



Copyright© 1999 Parametric Technology Corporation. All rights reserved. Parametric Technology Corporation and Pro/ENGINEER are registered trademarks of Parametric Technology Corporation in the U.S. and in other countries. Parametric Technology, PTC, the PTC logo, ICEM, CDRS, ICEM Surf, 3DPAINT and other PTC product names are trademarks of Parametric Technology Corporation in the U.S. and in other countries. All other company and product names are trademarks or

