VISI

Software for improved efficiency

VISI is acknowledged as the leading CAD/CAM software solution for the Mould & Die industries.

VISI offers a unique combination of fully integrated wireframe, surface and solid modelling technology, comprehensive 2D, 3D and 5-axis machining strategies with dedicated high speed routines.

Industry specific applications for plastic injection tool design including material flow analysis and progressive die design with step-by-step unfolding provide the toolmaker with unsurpassed levels of productivity.

With its comprehensive range of CAD interfaces, VISI eliminates the links between varying software suppliers and the solid-to-surface or CAD-to-CAM geometry conversions required by traditional systems.

- Industry focussed technology
- Efficient and practical solutions
- Single environment for design & manufacture

We are very happy with VISI, as the software works in the same way as a toolmaker thinks. That makes VISI easy to learn and quick to integrate.“

Manfred Deifel, head of toolmaking at Rafi GmbH & Co. KG

VERO SOFTWARE

We speak your language

Vero Software is a world leader in CAD/CAM software with a proven track record of reliable product delivery. Vero develops and distributes software for aiding the design and manufacturing processes, providing solutions for the tooling, production engineering, sheet metal, metal fabrication, stone and woodworking industries. Despite the diversity of application, these solutions have one thing in common: they all address the rising challenges of achieving manufacturing efficiencies and bring huge value to the operations where they are deployed.

The company has direct offices in the UK, Germany, Italy, France, Japan, USA, Netherlands, China, Korea, Spain and India supplying products to more than 45 countries through its wholly owned subsidiaries and global reseller network.

Part of Hexagon

Vero Software is part of Hexagon, a leading global provider of design, measurement and visualisation technologies that enable customers to design, measure and position objects, and process and present data.

For more information, please do not hesitate to get in touch

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vero Software

PART OF HEXAGON

VISI™

The modular CAD/CAM/CAE system for mould design & manufacture

Mould Making

vero Software

VISI™

The modular CAD/CAM/CAE system for mould design & manufacture

The end-to-end solution for toolmaking and mould making. VISI supports all parts of the mould making process, from model analysis and plastic flow front simulation, to core & cavity separation, electrode production and 3D tool construction. This industry specific technology makes VISI the only end-to-end CAD/CAM solution unique to the toolmaking and mould making industry.

Die Making

- VISI Progress (Unfolding & strip design)
- VISI Progress (Tool design)
- VISI Blank (Blank development)
- VISI Blank (Flange unfolding)

Construction

- VISI 2D CAD
- VISI 3D Surface Modelling
- VISI 3D Solid Modelling

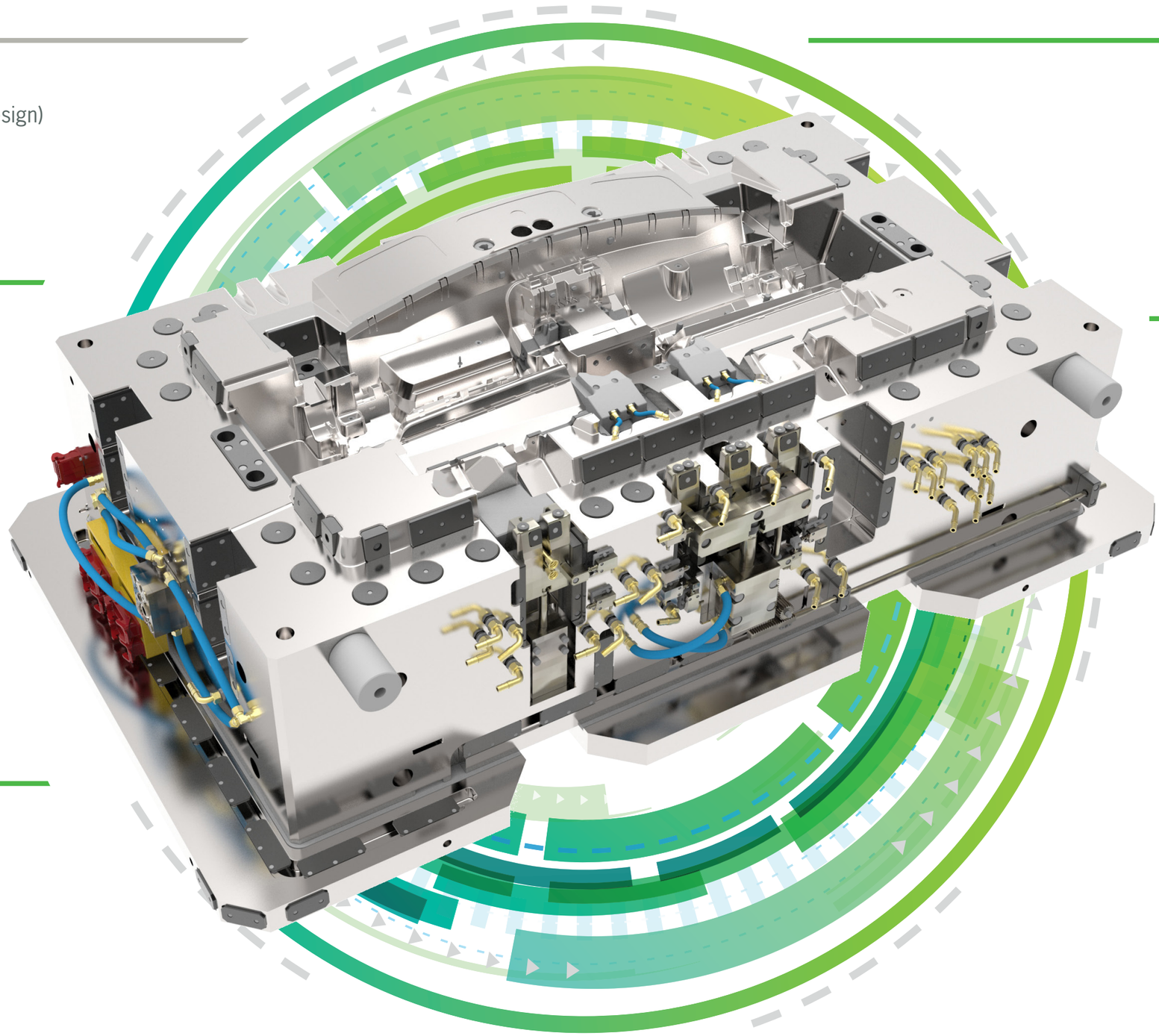
Standard interfaces include:

- STEP
- IGES
- VDA
- Parasolid
- DWG, DXF
- Solid Works
- Solid Edge
- Inventor

- VISI Advanced Modelling

Interfaces

- Catia read
- Catia write
- NX read
- PTC read
- JT Open read & write
- SAT read & write



Mould Making

- VISI Flow
- VISI Analysis
- VISI Electrode
- VISI Mould

Additional Modules

- VISI PDM
- VISI Viewer

NC Programming

Milling & Drilling:

- VISI Machining 2.5-Axis
- VISI Machining 3-Axis
- VISI Machining 5-Axis
- VISI Compass Technology

Erosion:

- VISI PEPS-Wire (Wire EDM)
- VISI EDM (Sink Erosion)

vero Software

VISI MODELLING

2D and 3D CAD

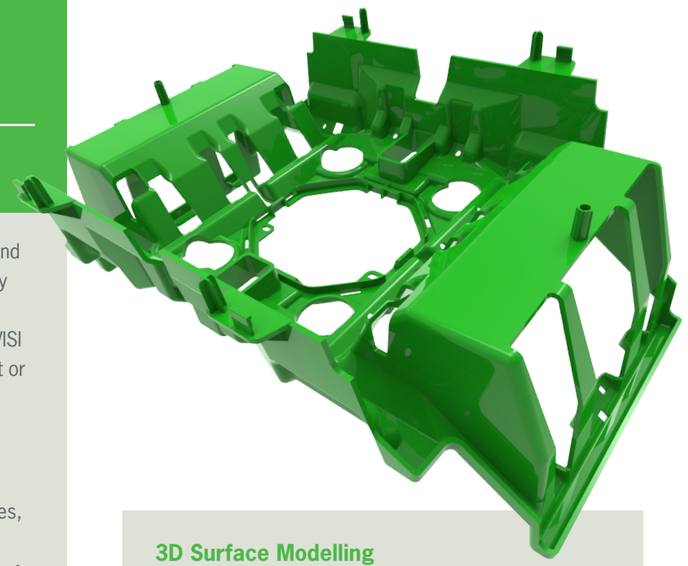
VISI Modelling provides a robust and powerful solid and surface modelling platform based around the industry standard Parasolid® kernel. Combined with Vero's surface technology, model analysis and 2D design, VISI Modelling offers complete flexibility to construct, edit or repair the most complex 3D data.

2D Construction

- Extensive construction techniques
- All geometries such as points, lines, circles, splines, profiles
- Trimming, moving, scaling, rotating and mirroring of elements
- Form and position tolerances, surface specifications
- Full dimensioning / measuring functions

3D Solid Modelling

- Dynamic Direct Modelling
- Simple generation of solids
- Feature manager
- Wall thickness analysis
- Model kinematics
- Exploded view
- Drawing creation
- Bill of materials



3D Surface Modelling

- Hybrid solid and surface modelling kernel
- Closure of surface set to solid model
- Comprehensive repair functions
- Creation of complex surface geometry
- Multiple surface types such as ruled, sweep, draft, drape, lofted, pipe, drive & shape, capping, fillet, parting plane, and tangential.

CAD Interfaces

For the import and export of CAD data, the following interfaces are available:

- STEP
- IGES
- VDA-FS
- PARASOLID
- DWG, DXF
- STL
- Solid Works
- Solid Edge
- Inventor

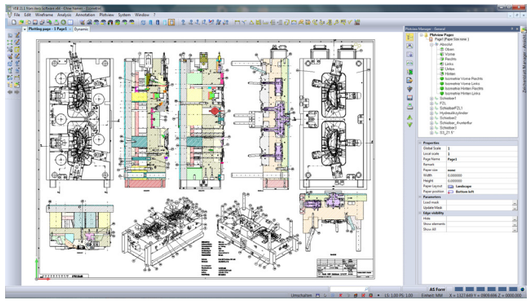
Optional:

- Catia
- NX
- PTC
- JT Open
- SAT

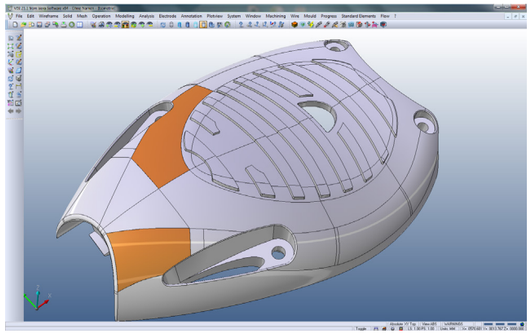
Advanced Modelling

Advanced modelling is a set of tools that enable the existing model topology to be changed without compromising model integrity or curvature consistency. For example, it can be the easiest way to introduce warpage compensation into the mould tool.

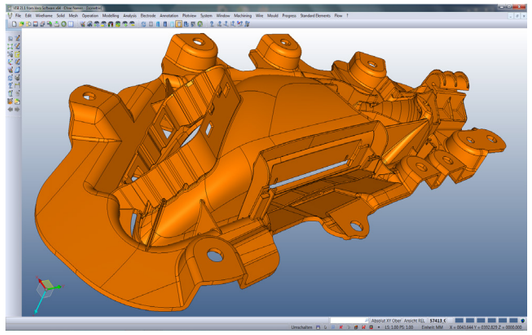
Automatic 2D view creation from 3D model



Hybrid solid & surface modelling



Injection moulded part, picture courtesy of Faßnacht Formenbau



VISI MOULD

3D tool design

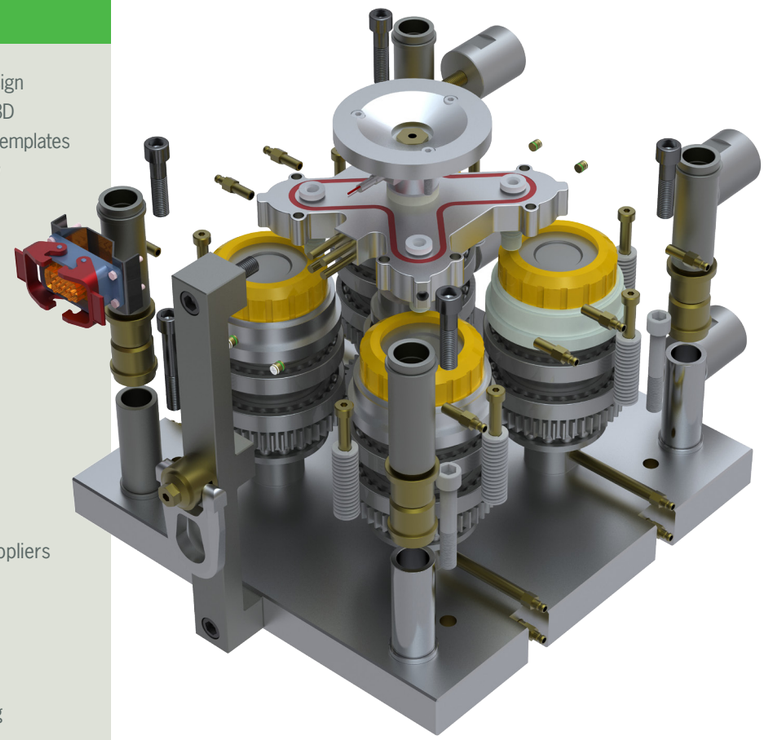
VISI Mould provides the complete mould tool design solution based on industry specific automation. 3D supplier catalogues, slide components and tool templates provide the designer with a real time view of how component changes will affect the tool design.

Standard Component Catalogues:

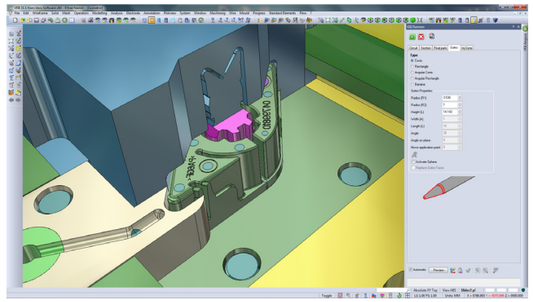
- Intelligent component editing
- Industry supplier parts (screws, pillars, ...)
- Ejector pins (with locking system)
- Slide systems / guide rails
- Springs / hydraulics
- Cooling (plugs, o-rings, hoses, ...)

3D Mould Design

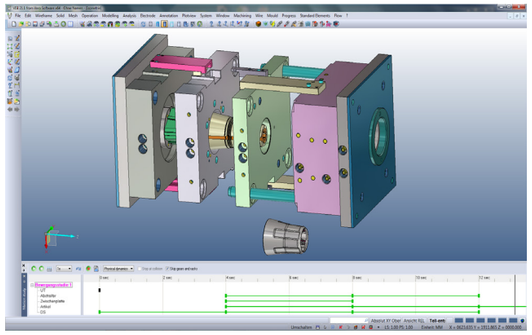
- 3D standard mould designs from leading suppliers
- User-defined tool designs
- Parametric user elements
- Automated slide creation
- Automatic creation of sprue designs
- Integrated cooling with 3D collision checking
- Automatic adaptation of the ejectors to the component shape
- Mould gate and runner wizard
- Lubrication grooves
- Parametric lock builder
- Shrinkage module with rheological material database
- Automatic view creation, fixed and stepped section views, hole charts, and B.O.M
- Kinematic study of moulding action with physical properties and collision checking
- Automatic allocation of CAM attributes for feature processing (Compass technology)



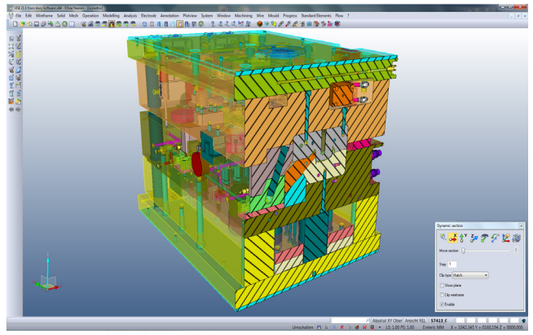
Injection gate and runner design



Kinematic simulation of mould tool with time-line



Dynamic section of a 3D mould tool



VISI FLOW

Plastic flow analysis

VISI Flow Lite

The Lite version module simulates the filling phase of the injection moulding process. This is where the initial moulding criteria and gating positions are defined in order to achieve a well-balanced filling of the cavities under optimum manufacturing conditions.

- Optical criteria (e.g. weld lines, air pockets)
- Optimisation of the gate location
- Pressure and temperature distribution during filling
- Clamping forces
- Shear stress
- Cooling time definition and overall quality

VISI Flow Filling

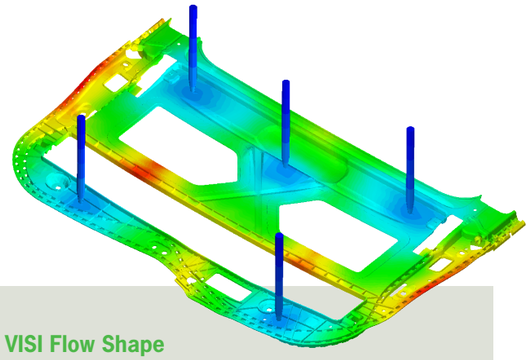
The enhanced Filling module can be used for the optimal configuration and balancing of the sprue situation and the analysis of any kind of feeding system. It also enables sequential injection specific to place and time.

The Filling module also enables the holding pressure and cooling time to be optimised. This in turn reduces the risk of sink marks and helps control volumetric shrinkage and optimise pressure distribution within the moulded part.

- Fibre orientation and Shearing rate
- Packing and Cooling times
- Pressure distribution during the holding phase
- Entered mass during packing with sink void prediction
- Tool closing force

VISI Flow Options

- Co-Injection
- Overmoulding
- Gas-injection
- Cross-linkable materials



VISI Flow Shape

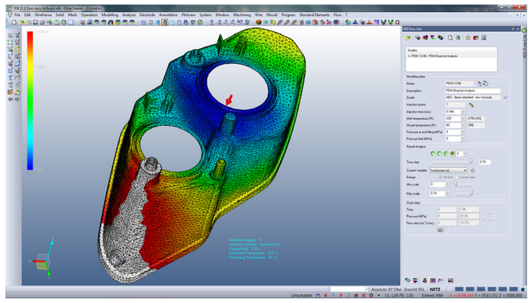
Warpage analysis calculates the balance of the internal tensions at the end of the cycle time. The result allows the operator to visualise and measure the final moulded shape predicted after processing the values for the filling, holding and freezing moulding phases.

VISI Flow Thermal

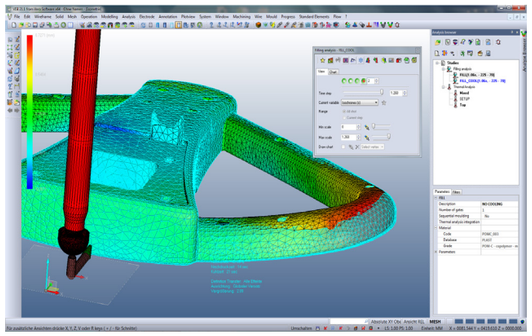
This module enables the calculation of tool temperature control with due regard to the prior phases. The calculations deriving from ‚solid elements' ensure that the medium's optimal temperature is recognised and set, and that the right flow quantities are available, along with the pressure required, for each individual cooling cycle.

- Distribution of surface temperature on the tool
- Distribution of temperature within the component
- Optimisation of cycle time
- Conformal cooling

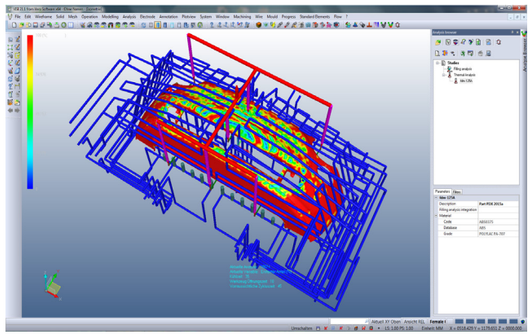
VISI Flow simulation using Flow Lite



Shrinkage calculation using VISI Flow



Thermal analysis using VISI Flow



VISI ANALYSIS

Analysis and model validation

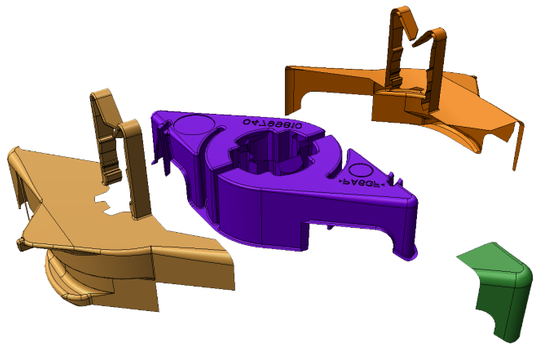
When working with imported data, the quality of model geometry can have a dramatic effect on the success of your project. Finding potential problems at an early stage within the project life cycle will dramatically simplify the task of the designer and return huge time and cost savings further downstream for both design & manufacture.

Component Analysis

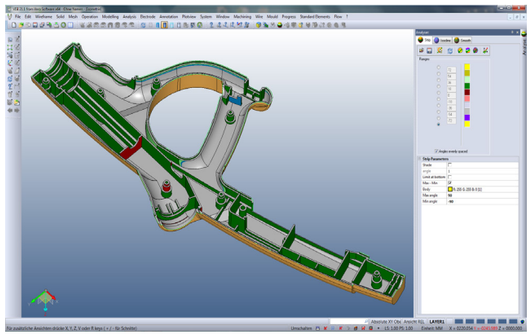
- Automatic recognition of part changes
- Draft angle visualisation
- Part thickness analysis
- Model curvature and radii checking
- Model validation and geometry cleaning
- Redundant data and sliver face detection
- Surface edge simplification

Component Separation

- Automatic core & cavity separation
- Split line curve creation and manipulation
- Dynamic parting face creation
- Animated mould opening sequence



Analysis of draft angles with colour zone representation



VISI ELECTRODE

Electrode construction

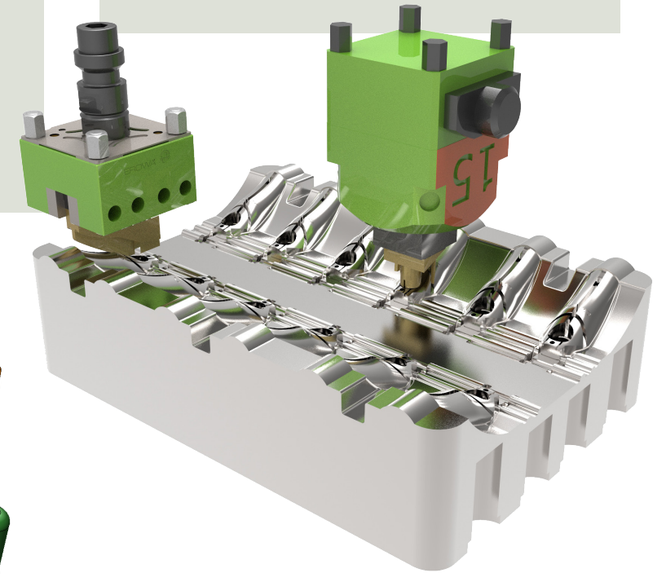
VISI Electrode is the end-to-end solution for the creation and management of electrodes and their holders. Comprehensive holder design, simulation and collision checking ensure that the electrode will operate right first time.

Electrode Construction

- Dynamic surface extraction for erosion areas
- Linear and tangential surface extension
- Electrode holder libraries
- Automatic creation of documentation

Manufacturing

- Collision checking
- Vertical / side / inclined electrode animation
- Issue of electrode data in neutral format (XML)
- HTML and EPX export



Electrode animation with collision checking