

: visi analysis

data preparation and model validation

VISI Analysis provides a suite of dedicated tools for the validation and preparation of model geometry. When working with imported data, the quality of the model is an important consideration. Finding potential problems at an early stage within the project will greatly simplify the task of the designer and generate huge time savings further along the design process.

Check for design changes

The model comparison tool provides the ability to load two models (solid or surfaces) and check for design changes. Any model deviations are highlighted using a new colour and using the transparency slide bar, it is possible to switch the visibility between either models to quickly identify the design changes. A second option will again identify the design changes, using a set of user-defined distance parameters, it is possible to see the physical distance changes between the two models. Automatic extraction of the model differences makes it quick and easy to apply design changes to existing data.

Draft angle and radii checking

Draft analysis is where to start on any model to quickly validate the moulding feasibility. Finding potential design issues at this stage will generate huge time savings. Simply select the moulding direction and the model will be rendered using user-defined colour draft zones to easily identify problem conditions. The graphical interface can also be used to highlight the model curvature and max / min radii.

Edge conditions

When working with imported data, the geometry edge conditions can have a major effect on the model quality and be an important key to a successful project. VISI Analysis contains tools to interrogate the model topology for both editing and simplification of the surface edge and tangency conditions.

Graphical core and cavity creation

Multiple separation tools are available to interrogate the model and gather the surfaces required for the relevant core, cavity, undercut or side moving zones. All features can be grouped and dynamically translated along a movement axis to represent the mould opening sequence. The animation can be saved as an external file and re-run at any point to help explain the complete working of the mould tool. The split line manager provides 3 different routines for finding the optimum split line. Using the highly graphical interface it is possible to interact with the computer generated result and modify it to suit your own design requirements. It is possible to extract the split line as curve geometry or automatically separate the model into the relevant core, cavity or side moving zones.

automatic recognition
of design changes

model curvature
and radii checking

dynamic face
analysis

draft angle
visualisation

core & cavity
model separation

controllable surface
edge simplification

multiple split
line calculations

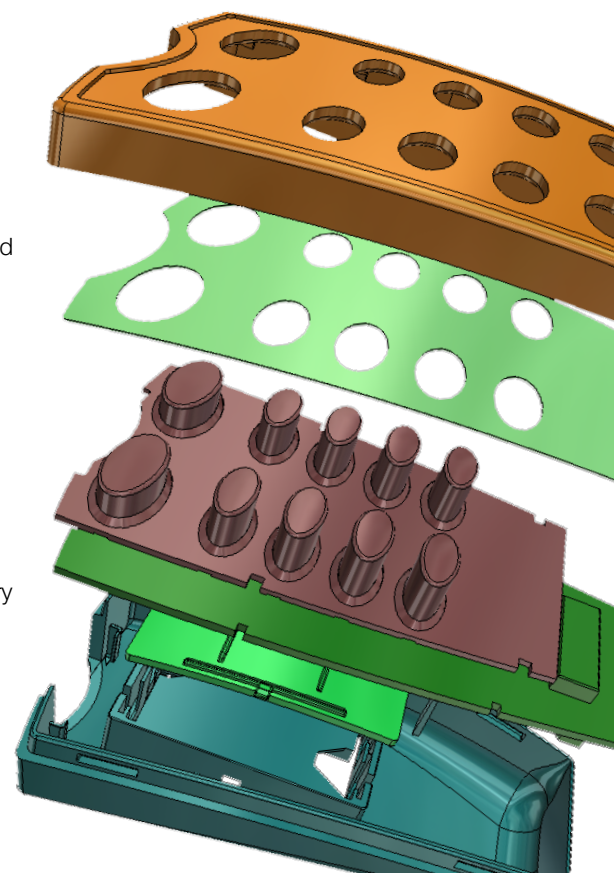
dynamic parting
face creation

model validation
and geometry cleaning

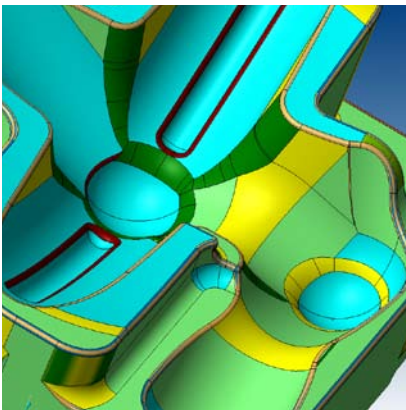
redundant data and
sliver face detection

tolerance control
for surface edges

animated mould
opening sequence

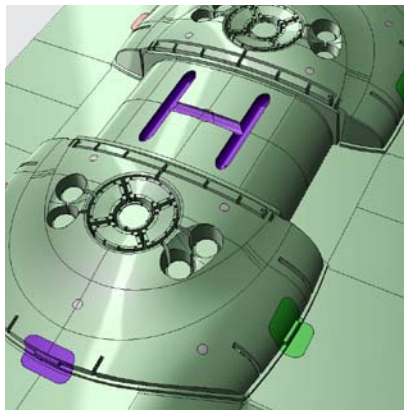


Providing help on the most complex and time consuming tasks will release the designer to fully utilize their experience and maximise their productivity.



Parting & shut off faces

The creation of the parting and shut off faces are often one of the most time consuming and difficult tasks that a designer can face. A comprehensive suite of surfacing tools and a split plane manager combine to create a powerful tool for the generation and management of the most complex parting faces. Externally created surface sets such as intricate shut off conditions can be imported into the split plane manager and combined with extruded, offset, ruled, connection and patch surfaces to generate the parting geometry. Using the split plane tool it is also possible to automatically create the core and cavity models using the part geometry. Providing help and removing the laborious tasks will release the designer to fully utilize their experience and maximize their productivity.

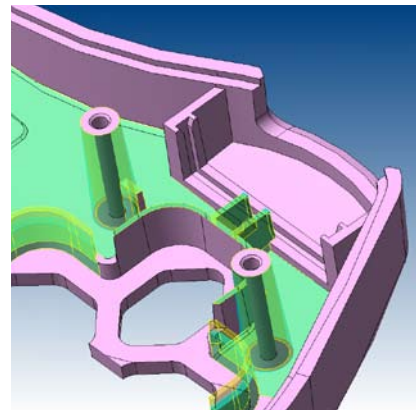


Model validation & cleaning

Powerful model clean-up tools are available to check data for redundant geometry. Duplicate geometry will be automatically highlighted, extracted and moved to another layer. Sliver face recognition will analyse the model and detect any potential problematic faces based upon a user-defined surface area. Automatic removal, healing and sewing will maintain the solid topology and guarantee data consistency. Graphical solid interference checking and model validation for corrupt data, geometry faults and trimming conditions will ensure the best possible result.

Seed faces

The seed face tool provides the ability to select a single or multiple starting faces and automatically detect any flowing surfaces from the reference face using a user-defined angle



threshold. This tool is particularly useful and a very fast way of extracting water jackets or separating geometry into A & B surface sets.

Tip data

If working with geometry in 'car-line' or managing data between multiple origins, tip data greatly simplifies the task of moving information from 3D model space to your working origin. All movements between origins can be extracted and output to a report file for future reference and project documentation.

Surface analyser

An information tool that will provide relevant face data as you dynamically move the mouse over the model. Without doubt, the fastest way to check draft conditions, trimming loops or fillet radii.

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