

NX I-deas VGX Core/Cavity

Specialized tools for the development of core and cavity models

fact sheet

Siemens PLM Software

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► Summary

NX® I-deas® VGX Core/Cavity software provides a tool set specifically tailored for the mold designer. Draft and parting line analysis tools help jump start the mold design process. Unique interactive surfacing tools help the mold designer quickly develop the shutoff and parting surfaces that will best provide predictable mold action and effective flash control. Automatic tools split the mold into associative pieces which can respond quickly to later design changes.

Benefits

Quick analysis and understanding of part geometry issues for moldability

Easy modeling with needed design tools in one convenient location

Fast construction of parting faces, shutoffs and other geometry needed to complete the mold design with specialized tools optimized for these tasks

Associative mold pieces quickly update with new design data

Features

Specialized analysis tools illustrate parting line and draft information

Dynamic, interactive surface tools work from the parting line to produce parting and shutoff surfaces

Associative splitting of multiple mold pieces

Molds require a great deal of specialized design work in order to produce the various core and cavity components that make up the finished molding surfaces. With the design part as a starting point, the mold designer may be required to:

- scale
- discover parting lines
- draft
- create shut-off surfaces
- create parting surfaces
- subdivide surfaces for side-pull or lifter pieces

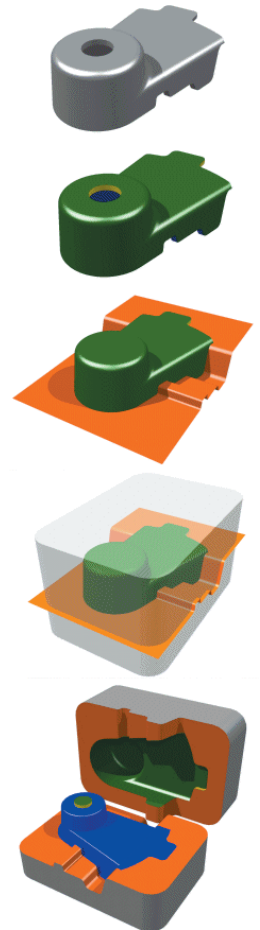
VGX Core/Cavity provides specialized tools to support this specialized type of design work. These tools can significantly reduce cycle time for the mold designer.

Part interrogation

VGX Core/Cavity includes an advanced die lock check function that identifies and categorizes surfaces as one of:

- sufficiently drafted A-side (cavity)
- insufficiently drafted A-side
- sufficiently drafted B-side (core)
- insufficiently drafted B-side
- vertical
- undercut

Surface categories are communicated clearly by applying surface colors to each group. Modeling problems are quickly identified. Draft issues are easy to understand, with separate A-side and B-side draft thresholds. Undercut surfaces are obvious. This tool is helpful for getting the mold design started.



VGX Core/Cavity provides tools to support the entire process of mold core and cavity development.

Multiple pull vectors can be evaluated to discover the most effective molding strategy. Surface colors can be permanently saved for downstream use.

Part modification

VGX Core/Cavity conveniently provides the most frequently used modification tools right on its tear-away icon palette:

- scale
- draft
- surface-by-boundary
- silhouette curves

The mold designer often needs one or more of these tools to ensure that the part has a workable parting line and can in fact be molded.

Mold surfaces

Shut-off and parting surfaces are a critical part of the mold design. The underlying NURB geometry can be used to create shut-off surfaces in the interior of the part, providing for smooth and continuous surfaces inside the mold.

VGX Core/Cavity also includes a surface operator specifically developed to produce parting surfaces quickly and easily. This surface operator is flexible and interactive, allowing the user to achieve complex results quickly. Parting surfaces can automatically be generated from the parting line identified by the die lock check. These surfaces can be dynamically manipulated to create complete or partial parting surfaces associated to the part edges. Tangency and draft constraints can be met, providing the optimum parting faces for consistent mold action and flash control.

Electrodes and lifters can be easily modeled and kept associative to the mold blocks as well.

Core/cavity splitting

The ultimate aim of the mold design is to produce individual models of the core side, cavity side and any side action or lifter pieces. Once the parting surfaces have been created, VGX Core/Cavity automatically divides the insert block into the separate pieces that make up the mold volume. Again, this process is completely associative so that these pieces can each be brought up to date in case of a change to the original design part.



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