

Tooling And Mold Design

Autodesk Inventor Professional helps automate key aspects of the design of injection molds for plastic parts. This allows you to quickly create and validate complete mold designs, reducing errors and improving mold performance.

With its intuitive mold design workflow, Inventor software guides you through the mold design process in a way that is natural for the experienced user, while at the same time supportive for the novice.

Streamline the design of plastic injection molds

Autodesk Inventor software includes easy-to-use mold design features that work directly from Inventor 3D models of plastic parts. Full associativity to the Inventor digital model helps make sure that any changes to the model are automatically reflected in the mold design. Inventor guides you through the mold design process and automates a number of complex operations, such as capping openings and runoff/shutoff surface generation. The result is higher quality products and faster time to market.

Part Preparation

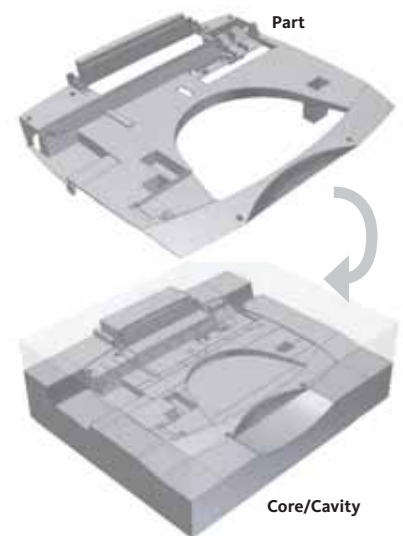
Gain access to extensive material property information by selecting part material from the Autodesk® Moldflow® material database, the world's largest material database for injection plastic molding. Interactively define the parting direction. A default work piece size is recommended by the system based on the part dimensions. You can also easily edit the settings, if necessary. Any information added to the part model is reused in the mold design process.

Patch and Parting Surface Creation

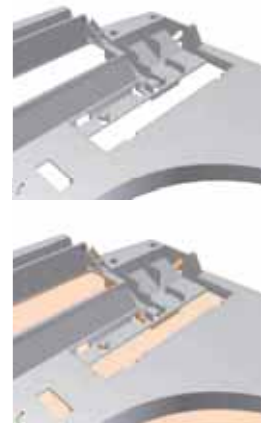
Accelerate mold design by creating surfaces automatically. Close multiple openings in your part model using automated patch surface creation. And generate parting surfaces automatically based on the defined parting direction.

Automated Core and Cavity Design

Core and cavity design is time consuming with traditional CAD tools, but the mold design knowledge in Inventor software saves you time and reduces rework. With Inventor, you can split the work piece to generate the core and cavity halves based on the parting surface definition. Create side core designs to match the mold assembly, and incorporate old side core designs into existing mold assemblies. For multicavity mold designs, easily define the mold configuration layout as circular, rectangular, or variable. And use automated core and cavity design tools to create family molds.



Intelligent Patching



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Autodesk Inventor Professional includes Moldflow plastic flow analysis tools. Use them to determine material flow rates, ideal gate locations, shrinkage, and process parameters.

Runner and Gate Design

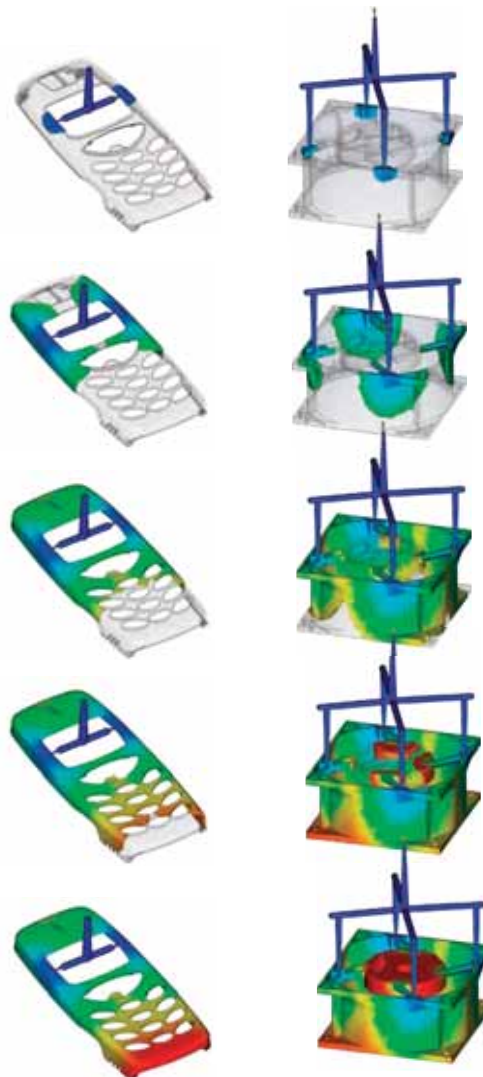
Reduce mold design lead time with automated runner and gate design tools. Facilitate the efficient distribution of molten plastic from the machine nozzle to the mold cavities by designing the complete runner system, including the sprue, runners, and gates. Gate location analysis tools help you determine gate locations accurately and efficiently. Preconfigured shapes allow you to quickly create gate points, gates, runners, sprues, and cold wells.

Cooling Channel Design

Reduce the time it takes to add cooling channels to the mold base while avoiding errors and inconsistencies. With Inventor Mold Design, you can quickly design cooling channels for the mold base through an intuitive user interface. Enforce consistency and reduce mistakes by selecting cooling components, such as connectors and pipe plugs, sealing plugs, and O-rings, from a standard catalog.

Moldability Analysis

Avoid costly mistakes by detecting moldability issues early in the design cycle. With Inventor software, you can analyze the part model before starting the mold design process. You quickly enhance your understanding of the plastic filling, sink marks, cooling efficiency, gate location, and optimum molding window.

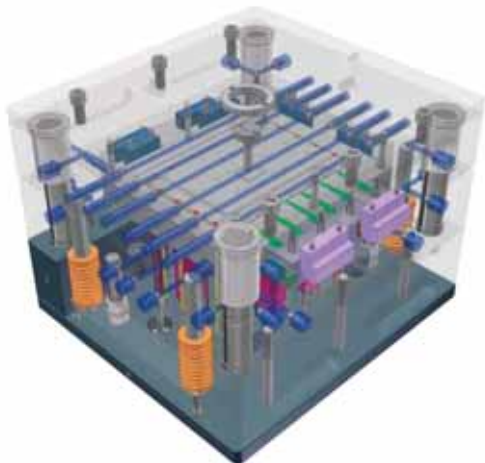


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Autodesk Inventor Professional provides an extensive collection of vendor catalogs of standard mold bases and components so you won't have to spend time modeling them.

Mold Base Libraries

Reuse standard mold base components across the organization, allowing you to avoid duplicate work while taking advantage of proven design knowledge. Inventor software supports a wide range of mold base catalogs, including DME, Futaba, HASCO, LKM, Pedrotti, Polimold, Rabourdin, and Strack. A single database stores and delivers easy access to standard components. When required, you can efficiently customize standard mold bases to suit your needs.



Standard Mold Base Parts

Improve productivity and avoid errors by reusing existing mold design knowledge as you create the detailed mold design in 3D. Begin by selecting mold base components from standard catalogs, including Meusburger, Misumi, National, Progressive, Punch, and Sideco. Design or modify standard components, such as sliders, lifters, ejectors, sprue bushings, and locating rings. When you have standard mold base components that meet your needs, you can export them as templates for future use.

Documentation

Reduce mold design lead time by generating drawings and BOMs automatically. Inventor allows you to automatically create 2D drawings of mold designs and related BOMs for use in documentation or manufacturing. When you make changes to the 3D design model, Inventor automatically updates the drawings and BOMs.