

Pro/ENGINEER® Tool Design Option

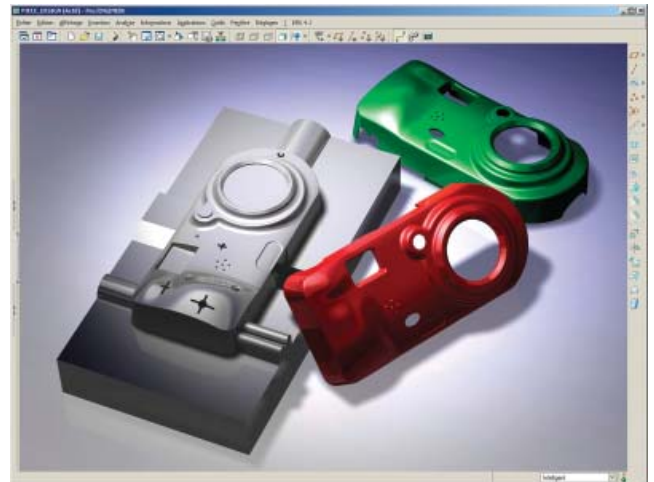
GO FROM DESIGN TO FABRICATION IN RECORD TIME

Pro/ENGINEER Tool Design Option (TDO) is the essential 3D CAD tool for professional designers who need to rapidly create higher quality mold inserts, casting cavities, and patterns. Using Pro/ENGINEER Tool Design Option's powerful parametric surfacing capabilities, engineers can easily create even the most complex parting surfaces with unprecedented ease. By automating many time-consuming, complex processes, Pro/ENGINEER TDO enables you to focus less on tedious tasks and more on creating innovative, top quality tool designs.

Easy Interfaces for Mold and Casting

Pro/ENGINEER Tool Design Option features a variety of 3D CAD tools specifically engineered to accelerate the design of molds and castings. With its robust functionality and two easy-to-use process-driven GUIs – one for molds and one for castings – designers can quickly develop inserts, casting cavities and patterns, regardless of the complexity of geometry.

Since the 3D models you create in Pro/ENGINEER automatically reference your mold and casting designs in Pro/ENGINEER TDO, any changes you make are instantly reflected in your tooling and patterns, which further speeds up the product development process.



A Pro/ENGINEER rendering of core mold and plastic parts.

Key Benefits

- Graphically evaluate mold draft, undercut, thickness and projected area, and then make instant repairs
- Design within two process-driven user interfaces – one for mold, one for casting – each guiding you step-by-step through the process of creating mold and casting cavity and patterns
- Create and modify any features such as drafts, rounds, complex surfaces and parting lines to improve moldability
- Compensate for both isotropic and anisotropic shrinkage
- Build patterns and sand cores that reference design part geometry
- Automatically:
 - Create parting lines by simply selecting the mold opening direction
 - Design parting surfaces, including steel-to-steel shutoff surfaces
 - Check for mold lock condition with mold opening and interference checks
 - Calculate fill volume
 - Split, using the parting surface, and create solid model mold components such as cores, cavities and sliders

Pro/ENGINEER Tool Design Option

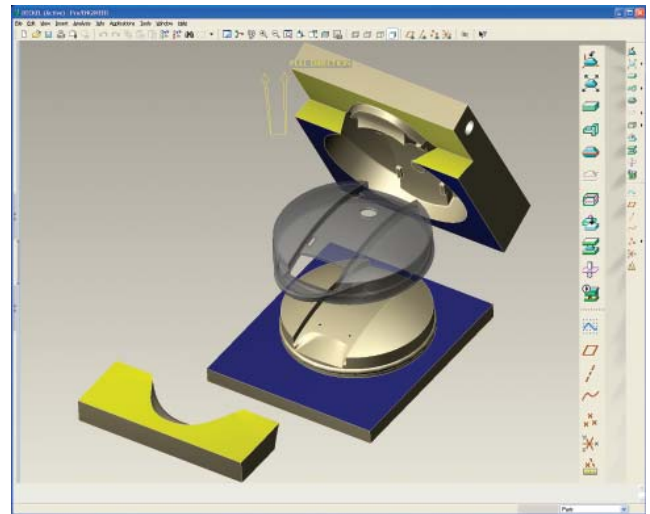
Features and Specifications

Mold Assembly Functionality

- Create multi-cavity layout configurations, including single, rectangular, circular and variable
- Access the online components catalog, then select, assemble and modify mold parts and mold bases, including DME, HASCO, Futaba, National, DMS and Progressive
- Automate the placement, trimming and clearance of holes for over 9,000 different ejector pins
- Select and quickly assemble user-customized injection molding machine mock-ups in order to check for possible interference
- Create waterlines and instantly analyze for thin wall conditions
- Simulate the mold opening sequence, including interference-checking
- Generate production-quality detail drawings, including BOMs and balloon notes
- Produce runners, gates and sprues instantly

Time-Saving Capabilities

- Dramatically shortens time-to-develop mold inserts, casting cavity and pattern geometry, while reducing modeling complexity
- Automates creating parting surfaces
- Ensures optimal quality; because your mold inserts are built by referencing design part geometry, the cavity is always current with the design part
- Compensates for model shrinkage by enabling you to dimension or scale the entire model in X, Y and Z
- Seamlessly integrates with Pro/ENGINEER Plastic Advisor for mold filling simulation
- Produces solid models of inserts that maintain an associative link to Pro/ENGINEER NC applications; if the design part changes, the mold inserts and NC tool paths automatically update
- Eliminates the need to translate between part design, mold design and NC, due to seamless integration with other Pro/ENGINEER applications
- Erases costly rework from interference-checking and mold-opening simulation
- Enables new users to become productive immediately, with easy-to-use interfaces both for mold and casting



Process-oriented user interface for mold design.

Language Support

- English, German, French, Italian, Spanish, Japanese, Chinese (Simplified and Traditional) and Korean

Platform Requirements

- Microsoft Windows (XP, 2000 and NT 4.0)
- UNIX platforms (Solaris, HP-UX, Linux)

For specific operating system levels, visit:

www.ptc.com/partners/hardware/current/support.htm

The Pro/ENGINEER Advantage

Compare the Pro/ENGINEER family of CAD/CAM/CAE products to ordinary solutions on the market and you'll see why it's the first choice of professional engineers worldwide. Pro/ENGINEER not only features the broadest set of 3D design and development tools, but all of these solutions are completely integrated and fully associative. That means any change you make to the model in one Pro/ENGINEER tool – the Tool Design Option for example – automatically updates all associated applications. Pro/ENGINEER associativity enables you to create the highest quality designs in the shortest amount of time.