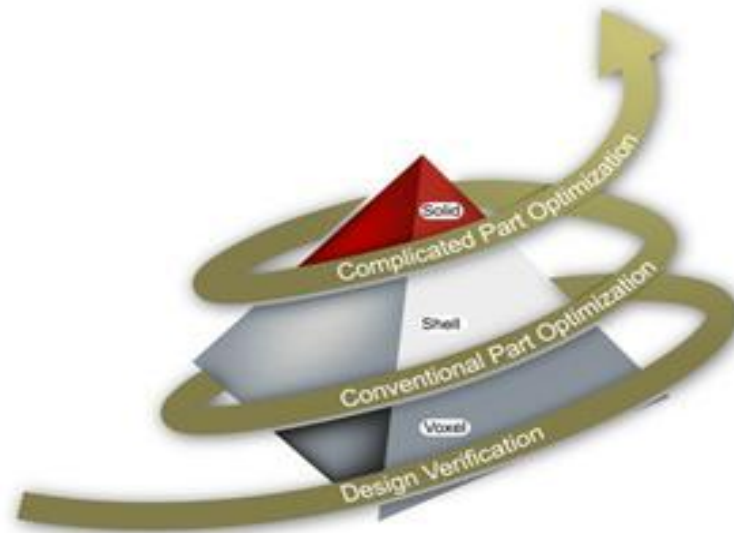


Moldex3D



◆ Flow analysis

- ◆ Predict the solid melt front progression to see how the mold fills
- ◆ Predict 3D fountain flow phenomena
- ◆ Predict 3D viscosity heating effects
- ◆ Predict weld line locations to minimize or eliminate them
- ◆ Predict air traps
- ◆ Predict the injection pressure and evaluate the requirement of clamping force
- ◆ Evaluate the runner layout and type to minimize the volume of material and achieve runner balancing
- ◆ Optimize the gate location and size to minimize weld lines and achieve balanced filling
- ◆ Optimize process conditions in filling stage, such as injection time, melt temperature, ram speed profile, etc
- ◆ Simulate filling process for multi-cavity molds or family molds

◆ Pack analysis

- ◆ Predict the requirement of clamping force in packing stage
- ◆ Predict areas of high volumetric shrinkage
- ◆ Predict gate freeze time
- ◆ Evaluate gate design to extend gate freeze time
- ◆ Optimize process conditions in packing stage, such as packing time, packing pressure, VP switch, etc
- ◆ Evaluate the design parameters for the revision or optimization of design
- ◆ Simulate multi-component molding process, including insert molding and multi-shot sequential molding (Moldex3D/Solid-MCM module is required)

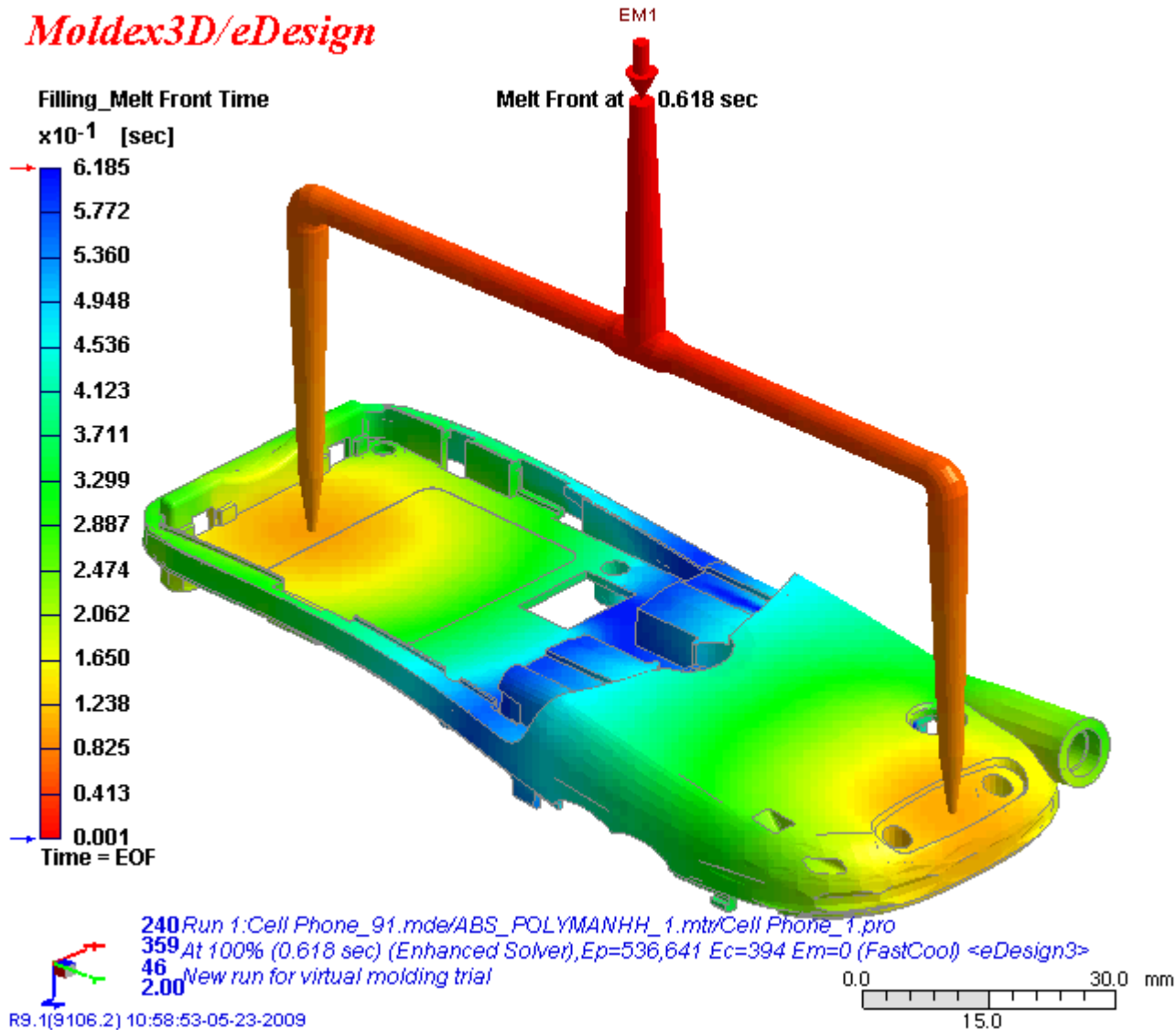
◆ Cool analysis

- ◆ Predict temperature in part, runner, cooling channels, inserts, etc
- ◆ Evaluate the efficiency of cooling system design, including cooling circuits, inserts, mold base, heating rod, etc
- ◆ Minimize unbalanced cooling problem
- ◆ Determine the required cooling cycle time
- ◆ Optimize mold cooling system design to achieve optimum cooling efficiency with the minimum cycle time
- ◆ Simulate multi-component molding process, including insert molding and multi-shot sequential molding

◆ Warp analysis

- ◆ Evaluate final part shape before actual molding
- ◆ Evaluate both single cavity and multi-cavity molds
- ◆ Evaluate unbalanced cooling effect on warpage
- ◆ Evaluate volumetric shrinkage effect on warpage
- ◆ Evaluate molecular and/or fiber orientation effect on warpage (Moldex3D/Solid-Fiber module is required to predict fiber orientation)
- ◆ Evaluate in-mold constraint effect on warpage
- ◆ Evaluate moldbase thermal deformation effect
- ◆ Evaluate thermally induced residual stress
- ◆ Query any two points to determine the linear shrinkage ratio between two locations

Moldex3D/eDesign



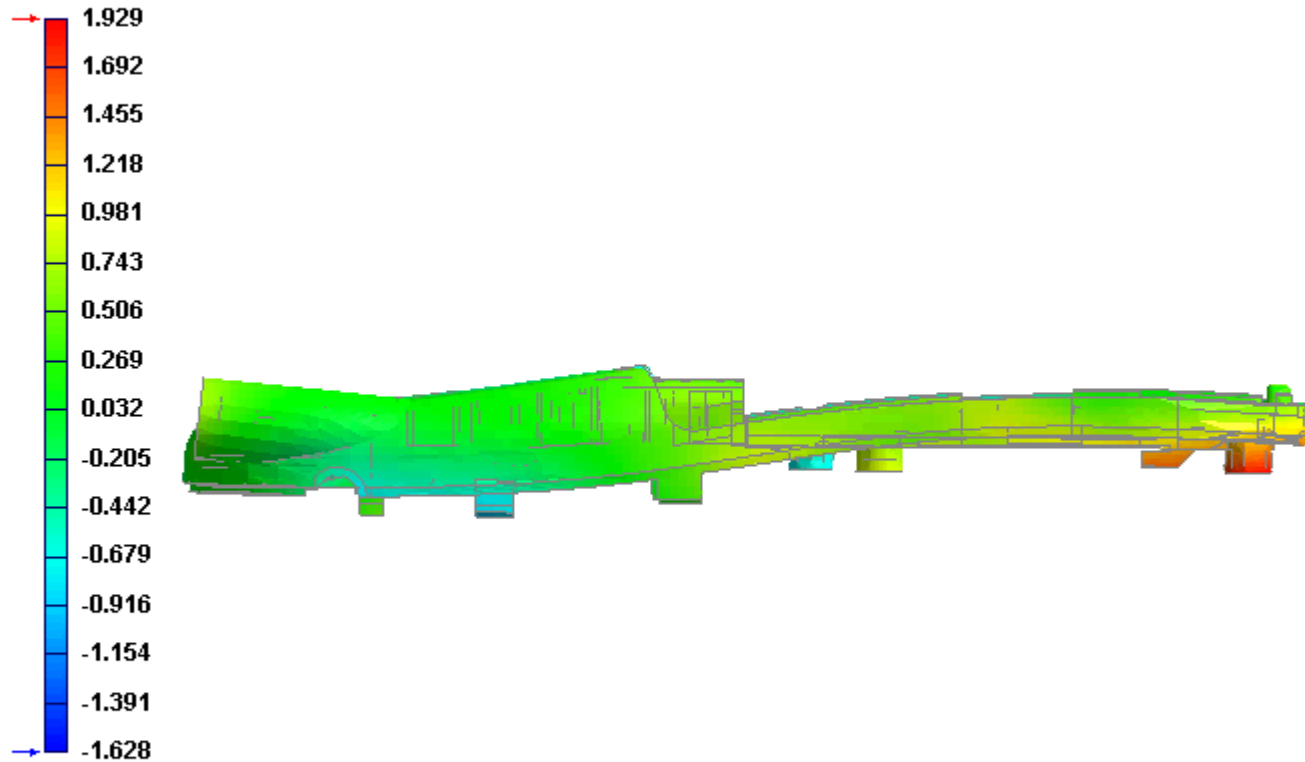
Cell Phone

Moldex3D

Moldex3D/eDesign

Warpage_X-Displacement
x10⁻¹ [mm]

Warpage Scale= 0.000

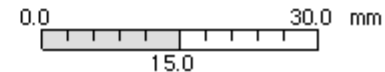


270 Run 1: Cell Phone_91.mde/ABS_POLYMANHH_1.mtr/Cell Phone_1.pro

0 Rng: -0.163 ~ 0.193 Avg: -0.00222 mm (Scale:0.00,Total),Ep=536,641 Ec=394 Em=0 (FastCool) <eDesign3

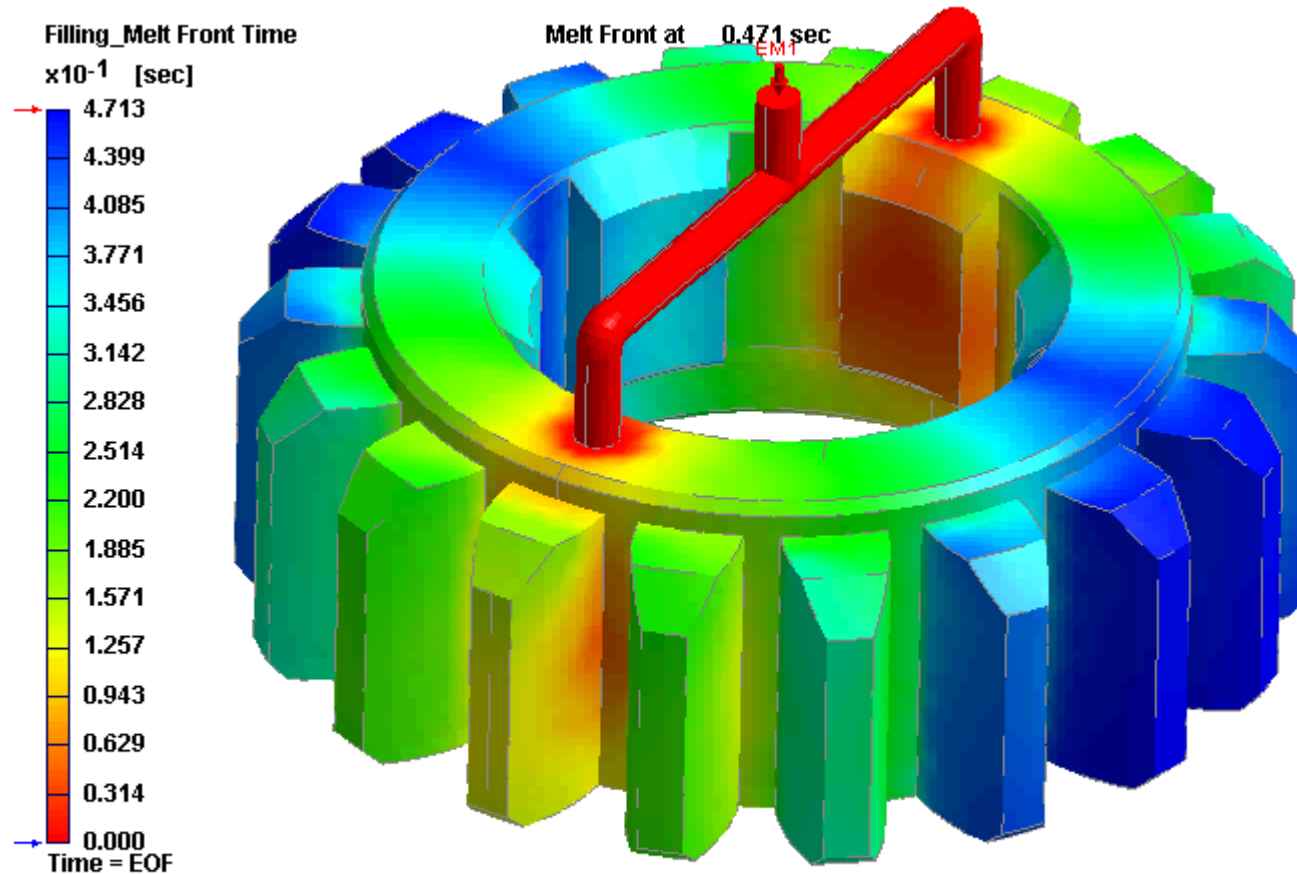
270 New run for virtual molding trial

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True 3D CAE for Injection Molding

Moldex3D/eDesign



57 Run 1:Gear.mfe/ABS_STYLACVA29_1.mtr/Gear_2.pro
359 At 100% (0.471 sec) (Enhanced Solver),Ep=130,208 Ec=0 Em=0 <Mixed>
302 New run for virtual molding trial
1.90

R9.1(9106.2) 11:33:11-05-23-2009

