



FLOW-3D CAST FEATURES LIST

FLOW-3D CAST BASIC

- ✓ Filling and solidification analysis of gravity pour, permanent mold, tilt pour, and centrifugal castings
- ✓ Tracks oxide formation and final location of oxide defects
- ✓ Tracks filling-related porosity and final location of porosity defects
- ✓ Shrinkage porosity during solidification
- ✓ Identifies microporosity formation during later stages of solidification
- ✓ Natural convection of molten metal before solidification for enhanced accuracy of solidification analysis
- ✓ Chills to localize solidification and equalize solidification rate
- ✓ Particle modeling for flow visualization

FLOW-3D CAST EXTENDED

- ✓ All BASIC features, PLUS
- ✓ Filling and solidification analysis for high pressure die castings
- ✓ Trapped gases and venting effects
- ✓ Thermal die cycling to determine mold temperature distribution; Optimize cooling lines to alleviate hot spots
- ✓ Shot sleeve motion for optimum filling accuracy
- ✓ Lost foam castings and associated foam defects
- ✓ Filters for flow control and oxidation removal
- ✓ Surface tension for small scale effects
- ✓ Up to 5 mesh blocks for improved simulation times and detail enhancement
- ✓ Temperature-dependent properties

FLOW-3D CAST ADVANCED

- ✓ All BASIC & EXTENDED features, PLUS
- ✓ Ladle pouring using six-degrees-of-freedom motion
- ✓ Cavitation potential for die erosion predictions
- ✓ Full gas dynamics
- ✓ Enhanced viscous effects including non-Newtonian viscosity, shear thinning/thickening and thixotropic flows
- ✓ Viscous heating
- ✓ Continuous casting
- ✓ Binary segregation
- ✓ Core gas defect prediction

FLOW-3D is a registered trademark in the USA and other countries.