Technical Education Services

Autodesk Simulation Moldflow Adviser Essentials

Course Length: 3 days

In this training course, students learn features, functionalities and workflows in Autodesk Moldflow Adviser through hands-on exercises. Students learn how to become more efficient at evaluating digital prototypes, running analysis, and interpreting the results for all analysis types available in the Design, Manufacturing, and Advanced packages.

The topics in this training course include:

- Use of the interface and job manager
- Customize databases
- Complete Fill +Pack + Warp analysis
- Step through the general process used for analysis projects
- Learn to import, and check models from CAD systems
- Check models for draft, thickness and undercuts
- Gate placement and uses of the gate location analysis
- Procedure to complete and interpret gate location analysis
- Procedure to complete and interpret molding window analysis
- Review part design guidelines
- Learn about analysis sequences (Fill, Cooling Quality & Sink Marks)
- Results visualization tools
- Cost Adviser tool
- Input parameters/result interpretation for filling, sink mark and cooling quality analyses

To see the current course schedule and to register for this course:

Go to imaginit.com/scheduleSIMMOLDFLOWESS

Course description shown for Autodesk Simulation Moldflow Adviser 2015. Topics, curriculum, and/or prerequisites may change depending on software version.

- Review features and capabilities of Autodesk Moldflow Communicator

- Create MFR in Autodesk Moldflow Adviser

- Create reports and review available formats

- Review and model typical gate and runner designs

- Review the importance and how to balance runner systems

- Review concepts of pack/hold for injection molds

- Review and interpret packing results

- Model cooling circuits with various cooling geometries

- Review concepts of cooling for injection molds

- Review and interpret cooling results

- Compare results when running different analyses

Prerequisites:
Prior mold analysis experience is not necessary.

Table of Contents

Course description shown for Autodesk Simulation Moldflow Adviser 2015. Topics, curriculum, and/or prerequisites may change depending on software version.

- Evaluation sheet - Quick-Cool-Fill-Pack-Warp Analysis

Chapter 3: Design Adviser Analysis

- Practice - Design Adviser Analysis
- Clamp
- Saw-housing
- Filter cap (example of candidate for 3D technology)
- Card holder
- Competency check – Design Advisor Analysis
- Evaluation sheet - Design Advisor Analysis

Chapter 4: Gate Location Analysis

- Practice - Gate Location Analysis
- Gate location analysis on the Cluster (Advanced Gate Locator algorithm)
- Gate location analysis using Fill Preview
- Gate location analysis on the Saw housing
- Gate location analysis on the Pushfit (3D)
- Competency check – Gate Location Analysis
- Evaluation sheet– Gate Location Analysis

Chapter 5: Molding Window Analysis

- Practice - Molding Window Analysis
- Molding window analysis results interpretation
- Evaluating number of gates on the Saw housing
- Evaluating gate location selection on the Pushfit
- Evaluating thickness changes on the Phone
- Evaluating alternative material on the AC Motor
- Competency check – Molding Window Analysis
- Evaluation sheet - Molding Window Analysis

Course description shown for Autodesk Simulation Moldflow Adviser 2015. Topics, curriculum, and/or prerequisites may change depending on software version.

Chapter 6: Evaluating the Part Design

- Practice - Evaluating the Part Design
- Clamp. Evaluating weld lines
- Clamp. Alternative material including cost
- Camera. Evaluating wall thickness changes
- Desk-insert. Evaluating sink marks
- Bracket. Reducing material and production costs
- Bracket. Alternative material including cost
- Pedal. Evaluating gate location effects on part quality
- Competency check – Evaluating the Part Design
- Evaluation sheet - Evaluating the Part Design

Chapter 7: Report Generation

- Practice - Report Generation Mouse
- Mouse
- Competency check – Report Generation
- Evaluation sheet - Report Generation

Chapter 8: Autodesk Simulation Moldflow Communicator

- Practice - Autodesk Simulation Moldflow Communicator
- Creating results files in Autodesk Simulation Moldflow Adviser for Autodesk Simulation Moldflow Communicator
- Selecting Results for export
- Entering project property information
- Creating the Moldflow results file
- Using Autodesk Simulation Moldflow Communicator
- Competency check – Autodesk Simulation Moldflow Communicator
- Evaluation sheet - Autodesk Simulation Moldflow Communicator

Chapter 9: Modeling Runners

- Practice - Modeling Runners
- Sander - Single cavity
- Toothbrush - Multi-cavity
- Phone handset - Family mold
- Communication Device - Family mold
- Competency check – Modeling Runners
- Evaluation sheet - Modeling Runners

Chapter 10: Runner Adviser & Runner Balance

- Practice - Runner Adviser & Runner Balance
- Front_mid_section - Sizing multiple gates
- Bricks - Sizing family runner system
- Competency check – Runner Advisor & Runner Balance
- Evaluation sheet - Runner Advisor & Runner Balance

Chapter 11: Pack & Warp Overview

- Practice - Pack & Warp Overview
- Housing (Dual Domain)
- Conclusion
- Pushfit (3D)
- Design Criteria
- Conclusion
- Competency check – Pack & Warp Overview
- Evaluation sheet - Pack & Warp Overview

Chapter 12: Modeling Cooling Circuits

- Practice - Modeling Cooling Circuits
- SGI Base

- Competency check – Modeling Cooling Circuits
- Evaluation sheet - Modeling Cooling Circuits

Chapter 13: Cooling Analysis Overview
- Practice - Cooling Analysis Overview
- SGI Base - C-FP-W Sequence
- Speaker - Evaluating cooling design changes
- Competency check – Cooling Analysis Overview
- Evaluation sheet - Cooling Analysis Overview

Chapter 14: Effects of Cool Over Pack & Warp
- Practice - Effects of Cool over Pack & Warp
- SGI Base - Cooling Quality
- Conclusion
- SGI Base - Warpage
- Conclusion
- Competency check – Effects of Cool Over Pack & Warp
- Evaluation sheet – Effects of Cool Over Pack & Warp

Chapter 15: Advanced Modeling Tips
- Practice - Advanced Modeling Tips
- Filter-cover
- Cap. Importing runners from another study
- Competency check – Advanced Modeling Tips
- Evaluation sheet - Advanced Modeling Tips

Appendix A: Thermoplastics Overview
- Theory and Concepts – Thermoplastics Overview
- What is a polymer?
- Structure of polymers

Course description shown for Autodesk Simulation Moldflow Adviser 2015. Topics, curriculum, and/or prerequisites may change depending on software version.

- Polymers Classification
- Thermoplastics classification
- Properties of Interest
- Thermoplastic material families & abbreviations
- Chapter Summary

Appendix B: Injection Molding Overview
- Theory and Concepts – Injection Molding Overview
- Injection molding machine
- Injection molding process
- Injection molding cycle
- Injection mold
- Injection Pressure
- Flow behavior
- Chapter Summary

Appendix C: Finite Element Overview
- Theory and Concepts – Finite Element Overview
- Finite elements used in Autodesk Simulation Moldflow
- Mesh types used by Autodesk Simulation Moldflow
- Solver assumptions
- Chapter Summary

Appendix D: Moldflow Design Principles Overview
- Theory and Concepts – Moldflow Design Principles
- Unidirectional and controlled flow pattern
- Flow balancing
- Constant pressure gradient
- Maximum shear stress
- Uniform cooling

Course description shown for Autodesk Simulation Moldflow Adviser 2015. Topics, curriculum, and/or prerequisites may change depending on software version.

- Positioning weld and meld lines

- Avoid hesitation effects

- Avoid underflow

- Balancing with flow leaders and flow deflectors

- Controlled frictional heating

- Thermal shutoff of runners

- Acceptable runner/cavity ratio

- Chapter Summary

Appendix E: User Interface Overview

- Theory and Concepts – User Interface Review

- What is Autodesk Simulation Moldflow Advisor?

- Starting Autodesk Simulation Moldflow Advisor

- The Autodesk Simulation Moldflow Advisor graphical user interface

- Application Menu

- Quick Access Toolbar

- Environment Tabs

- Context Menu

- Panels

- Tasks tabs

- Project panel

- Drag-and-drop

- Study Tasks list

- Tools Tab

- Results Advisor

- Display window

- Splitting windows

- Locking

- Analysis Summary

- Notes panel
- Dynamic Help panel
- Wizards
- Working in Autodesk Simulation Moldflow Advisor
- Creating and opening new projects
- Creating a new project
- Opening an existing project
- File Association
- Options
- Model manipulation
- Object visibility
- Entity selection methods
- Working with properties
- Editing properties
- Changing default properties
- Chapter Summary

Appendix F: Analysis Workflow Overview

- Theory and Concepts – Analysis Workflow
- Moldflow design philosophy
- Project design procedure using Moldflow
- Optimize fill
- Optimize flow
- Optimize the part
- When to use Autodesk Simulation Moldflow Advisor versus Autodesk Simulation Moldflow Insight
- Chapter Summary

Index

Cancellation Policy

The following cancellation policy shall apply to all training engagements, Live Online, Consulting Services and Dedicated/ Custom Training:

- Company reserves the right to reschedule or cancel the date, time and location of its class at any time. In the event that a Training Class is cancelled by Company, Customer is entitled to a full refund. Company shall not be responsible for any other loss incurred by Customer as a result of a cancellation or reschedule.

- For Customer cancellations when written notice is received (i) at least ten (10) business days in advance of the class, the Customer is entitled to a full refund of its payment or reschedule enrollment, (ii) less than ten (10) business days, Customer shall not be entitled to a refund, but shall receive a class credit to be used within three (3) months of the date of the original class.

- Student substitutions are acceptable with at least two (2) days prior notice to the class, provided substitution meets course prerequisites and is approved by Company's Training Coordinator (trainingcoordinator@rand.com)

- For all Training orders, cancellation notices must be submitted to trainingcoordinator@rand.com. Company is not responsible for any error in the delivery of the email notice. In the event of any reschedule of Consulting Services and/or Dedicated/Custom Training by Customer, Company will invoice Customer for all non-cancellable travel expenses.

For full terms and conditions, go to imaginit.com/TrainingTC.

To request more information or to see training locations, visit imaginit.com/contact.

ion.