



AUTODESK MOLDFLOW INSIGHT TRAINING

Objectives

The main objective of this course is to teach students to become more efficient at creating digital prototypes, running analyses and interpreting the results of most of the analysis types available in Autodesk Moldflow Insight. After completing this course users will be able to:

- ✓ Navigate and use the Interface.
- ✓ Complete a Cool, Fill + Pack + Warp analysis.
- ✓ Step through the general process for analysis projects.
- ✓ Use flow charts to discuss optimization of filling, packing, and warpage of a part.
- ✓ Meshing workflow.
- ✓ Gate placement guidelines and gate location analysis.
- ✓ Conducting and interpreting a molding window analysis.
- ✓ Types, manipulation, and interpretation of results.
- ✓ Working with runners (designs, modeling, and balancing)
- ✓ Procedures to set a packing profile.
- ✓ Advanced options for a flow analysis.
- ✓ Using Autodesk Moldflow Communicator.
- ✓ Overview and working with thermoplastics and the injection molding process
- ✓ Using finite elements with Moldflow.
- ✓ Creating HTML, PowerPoint, and Word based reports of an analysis.
- ✓ Creating part models, feed systems, and cooling channels.
- ✓ Flow behavior.
- ✓ Using the modeling tools.
- ✓ Searching and comparing materials.
- ✓ Designing flow leaders and flow deflectors.
- ✓ Using valve gates.

Pre-requisites

This guide is designed for new users of Autodesk Moldflow Insight. It is recommended that you have a working knowledge of:

- Microsoft® Windows® 7, Microsoft® Windows® 8 or Microsoft® Windows® 10

Chapter 1: Introduction to Synergy

- What is Autodesk Moldflow Insight
- What is Autodesk Moldflow Synergy
- Starting Autodesk Moldflow Synergy
- The Autodesk Moldflow Synergy graphical user interface
- Working in Synergy

Chapter 2: Quick Cool-Fill-Pack-Warp Analysis

Chapter 3: Analysis Workflow

- Moldflow design philosophy
- Project design procedure using Moldflow
- Optimizing filling the part
- Optimize filling and packing of the mold
- Optimize the part
- When to use Autodesk Moldflow Adviser versus Autodesk Moldflow Insight

Chapter 4: Model Requirements

- Finite elements used in Autodesk Moldflow
- Mesh types used by Autodesk Moldflow
- Solver assumptions
- Mesh requirements introduction
- General mesh requirements
- 3D Mesh tetrahedral mesh specific requirements
- Mesh requirements summary
- Mesh density considerations
- Part details
- Compute time - mesh density - accuracy

Chapter 5: Model Translation and Meshing

- Overview for preparing a finite element mesh
- Tasks for preparing a finite element mesh
- Task - 3D Meshing
- Task - Midplane mesh generation

Chapter 6: Gate Placement

- Guidelines for gate placement
- Gate location analysis overview
- Deciding on a gate location algorithm to use
- Running a gate location analysis
- Gate location analysis results
- Gate location validation

Chapter 7: Molding Window Analysis

- Molding window benefits
- Molding window analysis inputs
- Running a Molding Window Analysis
- Molding Window Analysis Interpretation
- Answering questions with the molding window analysis

Chapter 8: Results Interpretation

- What results do you look at?
- Types of results
- Manipulation of results
- Manipulation of 3D results
- General results interpretation
- Summary of result types

Chapter 9: Filling Analysis

- Analysis workflow
- Molding machine selection
- Setting molding parameters
- Running a filling analysis
- Reviewing results
- Make revisions to solve problems

Chapter 10: Gate and Runner Design

- Terminology
- Assigning properties
- Features likely to be modeled within Synergy
- Gate design
- Runner design
- Runner creation
- Use of modeling tools
- Runner balancing

Chapter 11: Basic Packing

- When to run a packing analysis
- Definitions
- Packing analysis inputs
- Running a packing analysis
- Midplane and Dual Domain results
- 3D results

Chapter 12: Flow Analysis Process Settings

- Fill + Pack settings dialog
- Advanced options
- Differences between 3D and Dual Domain/midplane analysis
- Mold temperature profiles

Chapter 13: Autodesk Moldflow Communicator

- Autodesk Moldflow Communicator capability
- Reduced file sizes
- User-defined quality criteria
- Compare designs
- Files used with Autodesk Moldflow Communicator
- Autodesk Moldflow Communicator interface
- Dynamic Help
- Context menu
- Using Autodesk Moldflow Communicator
- Preparing files in Autodesk Moldflow Insight