



SOLIDWORKS PLASTICS

PREREQUISITES	LENGTH	DESCRIPTION
<ul style="list-style-type: none"> SOLIDWORKS Essentials and a fundamental knowledge of plastic materials, plastic part design, and/or injection mold design. 	3 Days	<ul style="list-style-type: none"> The SOLIDWORKS Plastics course teaches you how to use specialized simulation software tools to predict how melted plastic flows during the injection molding process. The SOLIDWORKS Plastics course covers all the features and functions of both SOLIDWORKS Plastics Professional (for part designers) and SOLIDWORKS Plastics Premium (for mold designers).
<p>► BASIC FLOW ANALYSIS</p> <ul style="list-style-type: none"> Basic Flow Analysis Element Types Meshing The Plastics Manager Tree Material Injection Location Running a Flow Analysis Flow Results Exercise 1: Basic Flow Analysis <p>► DETECTING A SHORT SHOT</p> <ul style="list-style-type: none"> Detecting Short Shots Fill Settings Flow Front Central Temperature Design Changes Simulations After Design Changes Exercise 2: Short Shots <p>► AUTOMATION TOOLS</p> <ul style="list-style-type: none"> Automation Tools Duplicate Study Copying Settings Plastics File Management Batch Manager Summary and Report Exercise 3: Design Changes 		<p>► INJECTION LOCATIONS & SINK MARKS</p> <ul style="list-style-type: none"> Injection Locations and Sink Marks Injection Location Rules Modeling for Injection Locations Sink Marks Exercise 4: Minimizing Sink Marks (I) Exercise 5: Minimizing Sink Marks (2) <p>► MATERIALS</p> <ul style="list-style-type: none"> Material Properties User-defined Database Resin Properties Temperature Properties Heat Transfer Properties Viscosity PVT Data Mechanical Properties <p>► MESH MANIPULATION</p> <ul style="list-style-type: none"> Mesh Manipulation Local Mesh Refinement Mesh Editing Leader Lines Solid Mesh Exercise 6: Mesh Repairs <p>► REACTION INJECTION MOLDING</p> <ul style="list-style-type: none"> Reaction Injection Molding



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► DETECTING AIR TRAPS

- Detecting Air Traps
- Air Traps
- Venting
- Exercise 7: Air Traps

► GATE BLUSH

- Gate Blush
- Runner Elements
- Shear Stress

► PACKING & COOLING TIMES

- Packing and Cooling
- Flow/Pack Switch
- Pack Stage, Analysis and Results
- X-Y Plot
- Clipping Plane Mode
- Isosurface Mode
- Exercise 8: Packing and Cooling Times
- Exercise 9: Optimizing Cooling Time
- Multiple Injection Locations

► MULTIPLE CAVITY MOLDS

- Multiple Cavity Molds
- Mold Layouts
- Channel Design
- Runner Channel Design
- Clamping Force
- Runner Wizard Channel Design
- Family Mold Layout
- Using Runner-Balancing
- Exercise 10: Multiple Cavity Molds
- Exercise 11: Runner-Balancing
- Exercise 12: Clamp Force

► GAS ASSISTANCE MOLDING

- Gas Assisted Molding

► VALVE GATES & HOT RUNNERS

- Valve Gates and Hot Runners
- Valve Gates Geometry and Mesh based
- Hot Runners

► SYMMETRY ANALYSIS

- Symmetry Analysis
- Case Study 1: Runner Design
- Case Study 2: Symmetry Face
- Exercise 13: Half Symmetry

► USING INSERTS

- Using Inserts
- Cavities and Inserts
- Materials for Inserts

► MULTI SHOT MOLD

- Multi Shot Mold
- Domain Order

► COOLING ANALYSIS

- Cooling Analysis
- Cooling Channels and Mold Bodies
- Coolant and Mold
- Cool Settings
- Cooling Simulations
- Cool Results
- Baffle
- Bubbler
- Exercise 14: Cooling Analysis

► WARPAGE ANALYSIS

- Warpage Analysis
- Shrinkage
- Warp Settings
- Warp Results
- Reducing and Fixing Warped Parts