



American Injection Molding Institute



Molding 2 *Process Development & Documentation*

Learning Objectives

- 1) Assess mold vs. machine to select or specify the optimum molding machine for given part / mold / material / process and understand the impact of the machine configurations and specifications on the molding process and molded part
- 2) Identify mold systems and components, understand different mold configurations and their impact on the molding process and part quality
- 3) Establish and document correct mold and molding machine setup: zero clamp / ejectors / carriage, clamp settings, ejector settings, molding machine nozzle, mold water diagram, water flow rate and Reynolds Number
- 4) Define plastic material terminology and understand how plastic material properties effect / are affected by the injection molding process. Understand, verify, and document material preparation, moisture analysis measurements, MFI results and understand the effects of improperly prepared material
- 5) Complete necessary calculations and conversions to develop and document a 2-stage molding process on a molding machine operating in various units and machine / plastic variables
- 6) Utilize the Process Development Startup Checklist and Process Development Workbook to safely startup, develop and document a 2-stage molding process using the AIM Process Development Methodology for a given machine / mold / material

- 7) Understand introductory Flow Grouping methodology: identify Flow Groups and Regions, how to collect appropriate sample parts for analysis
- 8) Understand the impact of Part Design on the molding process and part quality
- 9) Understand basic machine curves and cavity pressure curves to understand / explain / document and troubleshoot the injection molding process
- 10) Apply fundamental knowledge from the four pillars (plastic material, mold, molding process, and part design) to troubleshoot part defects, identify Root Cause and implement Corrective Action

Document Revisions:

20201215 - JT - Revised

Revised LO linkage to the Injection Molding Process Development Exam 1/2/3 grading Revision 20201113

20200914 - JT - Revised

Undated LO to Review / Exam linkage per revised course / exam content. PDW Exam Rev 20200901 & Written Exam Rev 2020082

20200826 - JT - Removed old Review question numbers

20190905 - DR - Name changed from Molding 2_LO to M02-LO. Uploaded to DMS

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