

INTRODUCTION

Injection moulded parts are widely used in automobiles, consumer goods, medical parts, aircraft interiors and across many more types of products. Parts that may vary in shape, size and complexity are manufactured using Injection moulding process in a moulding machine.

The process involves injection of plastic material into a cavity, where the material cools and hardens as per the configuration of the cavity. Injection moulding can be performed with a host of materials like elastomers, thermoplastic and thermosetting polymers. Moulds are made by a mould-maker (or toolmaker) from metal, usually either steel or aluminium, and precision-machined to form the features of the desired part.

Injection moulding process poses many challenges, which may lead to defects in the final parts. In order to successfully manufacture a moulded part, it is important to understand the possible defects, get an understanding of the parameters that control the moulding process, which could be incorporated at the mould design stage itself.

Keeping this in mind, IMTMA is organizing a two day online training program on Defects analysis and Troubleshooting of Moulded parts.

FOCUS AREAS

What is injection moulding?

Types of Injection moulding techniques

Types of moulds used in the Industry

DFMA in plastic moulding

What are the main factors causing defects?

- The moulding machine
- Injection mould
- Operating conditions i.e., Pressure, Temperature, injection speed & time, etc,
- Material
- Design of product
- Process management

Various defects, causes and solutions on:

- Sink Marks, Weld lines, Streaks, Blistering, Gloss difference, jetting,
- Short Shots, Burn marks, Flashes, Warpage, Over packing,
- Stress whitening/Cracking, Hesitation effect, unbalanced flow, Ejector marks, Scratches on the parts Deformations, Flaking, Drooling.
- Case studies from industries

Importance of analysis software before mould design

KEY TAKE AWAYS

At the end of the program, the participant shall be able to:

- Identify & prevent injection mouldings defects
- Understand root causes & address with suitable remedies
- Control procedures to achieve zero defects in moulding
- Understanding the importance of mould / die design during product design
- Importance of process simulation during die design

FEE PER PARTICIPANT (PER LOGIN)

Rs. 4000/-
+18% GST

**IMTMA Members/ Micro Companies/ Individuals/
Educational Institutions / Students/ IMTMA Non
Members/ Others**

USD 120/-
Overseas Participants

FACULTY

The program shall be delivered by **Mr Joseph Abraham**, a professional with more than 38 years of experience in Tool Designing & Manufacturing, Plastic injection Moulding, Training, Quality Management and Product design & Development. He worked as a Vice-Principal with NTTF. He has worked as a Tool Room Manager with several organizations such Balda Solutions, Malaysia, BPL Tool room, Bangalore and Tool Product Singapore. He currently provides training and tooling consultancy to several small scale industries.

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