

## INTRODUCTION

A Press tool is a system used to produce sheet metal components. Press tools are used extensively in the automotive industry to make sheet metal parts that eventually get assembled into a vehicle. Besides the automotive industry, consumer goods and aerospace sectors also use press tools to produce sheet metal components for their products. Press tools are precise systems and the effect of parameters such as geometry, material properties, type of press used & blank holding capabilities often determine the effective outcome of a press tool. Most press tools are categorized by more than 30 different types of operations like drawing, blanking, piercing, bending, forming, and many more. Press tools may vary in the type of construction which include single-stage, multi-stage, compound tools, and progressive tools. Keeping this in view, Indian Machine Tool Manufacturers' Association (IMTMA) is organizing an online program on Fundamentals of Press Tool Design.

## FOCUS AREAS

- Types of sheet metal processes
  - Shearing type Tools
  - Forming Tools
  - Combined Operational Tools with shearing and forming
- Classification of press tools
  - Single-stage Tools.
  - Progressive Tools
  - Compound Tools
  - Combination tools
  - Bending and Deep Drawing Tools
  - Fine blanking Tools
- Various elements in a press tool
  - Punches
  - Dies
  - Die set
- Types of Presses and methods of selection
  - Mechanical
  - Hydraulic
  - Pneumatic
  - Servo presses
  - Single, double, and triple action presses
- Calculations involved in press tools
  - Cutting clearance
  - Cutting force for blanking, Bending, and Deep drawing
- Materials used in Press tools
- Defects and remedies of pressed components
- Case studies on Press tool design.
- How to design Various Press tools
  - Selection of die set
  - Checklist preparation of Press tool design.
  - Strip layout determination
- Practical Tips on How to design a Press tool.
- View a simulation on software used for analyzing Press tools / Die faces.

## KEY TAKE AWAYS

At the end of the program, the participants shall be able to Learn

- The types of sheet metal forming techniques
- Know different types of press tools and elements of a press tool
- Do basic calculations for various elements of a press tool
- Learn a selection of the right press tools for a designed sheet metal part
- Identify defects arising on sheet metal part and ways to overcome the defects using the press tool

## FEE PER PARTICIPANT (PER LOGIN)

**Rs. 12500/-**  
+18% GST  
**IMTMA Members/ Micro Companies/ Individuals/ Educational Institutions / Students/ IMTMA Non Members/ Others**

**USD 500/-**  
**Overseas Participants**

**Group Concession : 10% for 3 to 5 and 30% for 6 and more delegates being nominated from the same company**

## 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 NTT. He has worked as a Tool Room Manager with several organizations such as Balda Solutions, Malaysia, BPL Toolroom, Bangalore, and Tool Product Singapore. He currently provides training and tooling consultancy to several small-scale industries.

### For Registration Contact

**Vinaykumar S**  
**Programme Coordinator**  
8147559749  
[vinay@imtma.in](mailto:vinay@imtma.in)

### Contact Address

**INDIAN MACHINE TOOL MANUFACTURERS' ASSOCIATION**  
Plot 249F, Phase IV, Udyog vihar, Sector - 18,  
Gurgaon - 122015  
Tata no- +91-124-6463101  
Tel : 0124 4014101 - 04  
Fax : +91-124-4014108

