

INTRODUCTION

Sheet metal is a versatile material that is widely used in construction, automotive, aerospace, and electronics. The increasing demand for sheet metal is driven by factors such as urbanization, industrialization, and technological advancements, which have led to the growth of various end-use industries. Sheet metal is metal that has been formed into a sheet that is thin and pliable, but maintains structural integrity and strength (unlike foil). Advantages of using sheet metal include durability, recyclability, and widespread availability, thus making it a suitable choice for many applications.

Their high strength and versatility make them ideal materials for parts like enclosures, brackets, assemblies, weldments, cabinets, and housings, as well as prototypes. You'll find them in cars, space rockets, planes, trains, air conditioning units, public restrooms, and even in cans of soda.

The aerospace industry relies heavily on sheet metal for aircraft structures and components, while the electronics industry uses sheet metal for computer enclosures and other electronic devices.

Sheet Metal design depends on behaviour of metal during different types of operations like shearing, bending, and forming. DFM guidelines address the challenges in material behaviour and tooling manufacturing. Understanding of DFM guidelines assist design engineers to consider design options and take right decisions to reduce tooling iterations and reduce part development time.

Keeping this in view, Indian Machine Tool Manufacturers' Association (IMTMA) is organizing a 2 days online programme on **“Design and Processing of Sheet metal parts”**.

FOCUS AREAS

- Why Sheet Material
- Selection of Sheet material
- Sheet metal manufacturing processes
- Sheet metal Operations overview
- Sheet metal Design Features
- Sheet metal Design guidelines
- Simulation based design for sheet metal parts
- Nesting strip layout for maximum material utilisation
- Latest trends
- Dimensioning of sheet metal parts
- Finishing operations

KEY TAKE AWAYS

After undergoing the programme, the participants will be able to understand -

- Overview of the sheet metal design guidelines
- Design considerations for various features like boss, lancing, embossing, gussets, beads, stiffeners
- Basic shearing operations like blanking, piercing,
- Understanding of bending operation, development of flat patterns
- Rules for dimensioning sheet metal components.
- Nesting, Strip layout and optimum utilisation of material to minimise wastage.

FEE PER PARTICIPANT (PER LOGIN)

Rs. 6000/-

+18% GST

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

USD 240/-

Overseas Participants

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

PARTICIPANT PROFILE

This programme will benefit practicing design engineers and senior technical personnel involved in the functions of Product Design and Development, Automobile & auto ancillaries, Tool rooms, Defence and Railway establishments, General Engineering and other Capital goods manufacturing industries. In order that the participation is effective and beneficial, it is recommended that participating companies depute a multi-disciplinary team of 2 or 3 people from the above functions. Participants should have knowledge of related products and processes.

FACULTY

This Program will be conducted by **Mr. Ramesh Srinivasa Rao**

Ramesh Srinivasa Rao, an Mechanical engineer by profession, was associated with L&T Technology services for over 14 years, as part of the Mechanical design services responsible for Industrial Design, Product design, tool design manufacturing simulation, Packaging, and sustainable product design. Electronics Plant at Bangalore.

Managed multiple product development projects and 350 + Mechanical engineers across multiple locations, Generated many patentable designs for clients in medical devices, automotive, consumer products.

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