

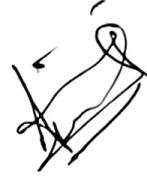


# MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE GWALIOR

## Department of Mechanical Engineering

### REPORT OF SKILL BASED MINI PROJECT

Design of Machine Elements (120412)



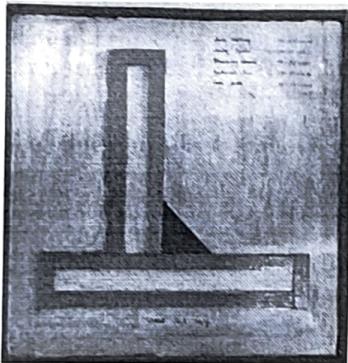
**Title of Project:** WELDED JOINTS

**Introduction:** Welded joints are a way of joining two or more metal components together. These joints are permanent joints. Each joint's design affects the quality and cost of the completed weld. Selecting the most appropriate joint design for a welding job requires special attention and skill.

There are five basic welding joint types commonly used in the industry:

- Butt joint welding
- Tee joint welding
- Corner joint welding
- Lap joint welding
- Edge joint welding

### Description of Model



This model is showing two joints aligned perpendicular to each other and welded on one side depicting a tee joint. These two components are homogeneous in nature and are precisely manufactured to fit onto each other as shown in the image. The weld is done by arc welding. In arc welding, both metals are heated and a consumable or non-consumable filler is filled at where the two metals meet and is welded together. After heat cools off, we get a strong and permanent joint.

### Applications of Model

Tee joints are used at multiple places in the industry wherever there is a need to join two components perpendicular to each other. For example, two pipes are connected in such a manner where the fluid to be flow has to flow in two directions perpendicular to each other, at the same time.

## What I Learned Through Project:

During the manufacturing of this project, I learned about different materials that are compatible together for welding.

I learned about different filler and their properties and which type of filler can be used to weld which type of metal and how arc welding works and how to use it



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