TA201A:
MANUFACTURING
PROCESSES I

Project Report

Group No: 5 (Tuesday)

Warrior Helmet

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Prof. Vivek Verma, Dr. Shikar Misra

Lab-In-Charge: Mr. Anil Kumar Verma

Course-Staff-in-Charge: Mr. IP Singh

GROUP MEMBERS:

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2.HARSHIT SAINI (210426) ..... .

3.HAVI BOHRA (210429) ..... .

4.HIMANSHU PATIDAR (210444) ..... .

5.INDRESH SINGH (210452) ..... .

6.JAHNVI SINGH (210460) ..... .

7.JAYANT SONI (210468) ..... .

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INTRODUCTION

- **Helmets** are a defensive covering for the head, one of the most universal forms of armor. Helmets are usually thought of as military equipment, but they are also worn by firefighters, miners, construction workers, riot police and motorcyclists, players of several sports, and bicyclists. Military helmets date from ancient times. Their basic function was to protect the head, face, and sometimes the neck from projectiles and the cutting blows of swords, spears, arrows, and other weapons.

- Helmets are used as a head protection tool for a long time. Earlier it was used in wars and battles, today it is used by us for driving and many adventurous purposes. The ancient models are as armor usually considered objects beautiful, rather than useful. They are exhibited in museums, in halls hung with tapestries, beside faience, ivories, and enamels of olden times.

MOTIVATION

- Our group has been motivated to build this project using various modern techniques and materials. Under this project, we are trying to create an old historical model of armor helmets using modern techniques and art. We are excited to accomplish this project in a way that looks like a real thing and the guidance, support, and motivation from the respected instructors and team spirit are the main keys to making it happen.

- This project mainly involves some modern and traditional methods of metallurgical engineering including some sorts of sheet metal works, moulding & casting, welding, riveting, etc.

ACKNOWLEDGEMENT

We would like to express our profound gratitude to our tutor Dr Srinu Gangolu, MSE laboratory in charge Anil K. Verma and course staff in charge Mr Indra Pal Singh for their able guidance and support for our project titled “Warrior Helmet”.

We are also very grateful to Mr Nripen Deka, Mr Rakesh Kumar, Mr Gaurav Mishra, Mr Anurag Prasad, Mr B R Singh and Mr Pappu for their constant supervision and valuable suggestions throughout the completion of our project.

We would also like to extend special thanks to all TAs for their valuable time and suggestions.

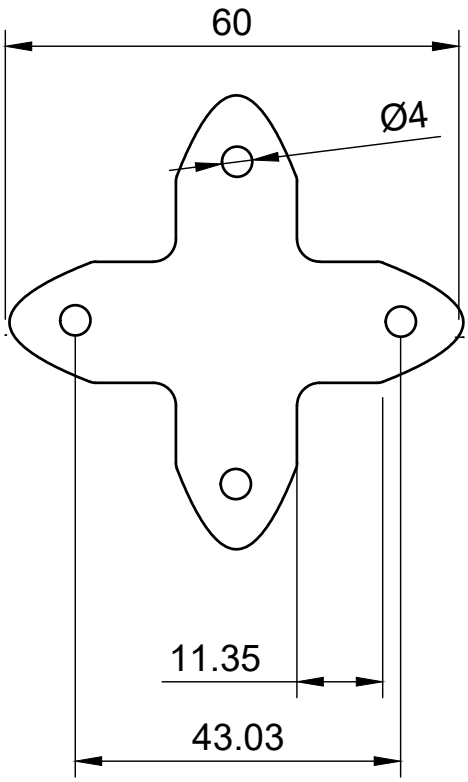
Finally, I apologize to all the other unnamed who helped us in various ways to have a great project.

Work distribution

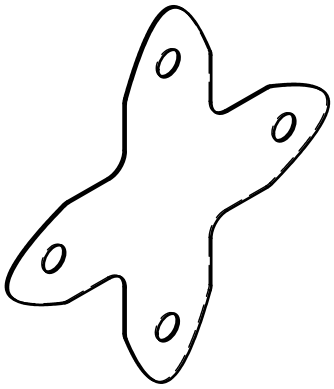
Members	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Harsha	Cutting Petals	Cu				
Harshit	Cutting Petals					
Havi	Cutting Strips & Rim					
Himanshu	Cutting Petals					
Indresh	Cutting Petals					
Jahnvi	Cutting Petals					
Jayant	Cutting Strips & Rim					

MATERIAL LIST

Part No.	Part Name	Dimensions	Quantity	Materials Required	Process Used
1.	Clip				
2.	Metal Cap Joint				
3.	Strips				
4.	Metal Cap				
5.	Petal				
6.	Face				
7.	Rim				



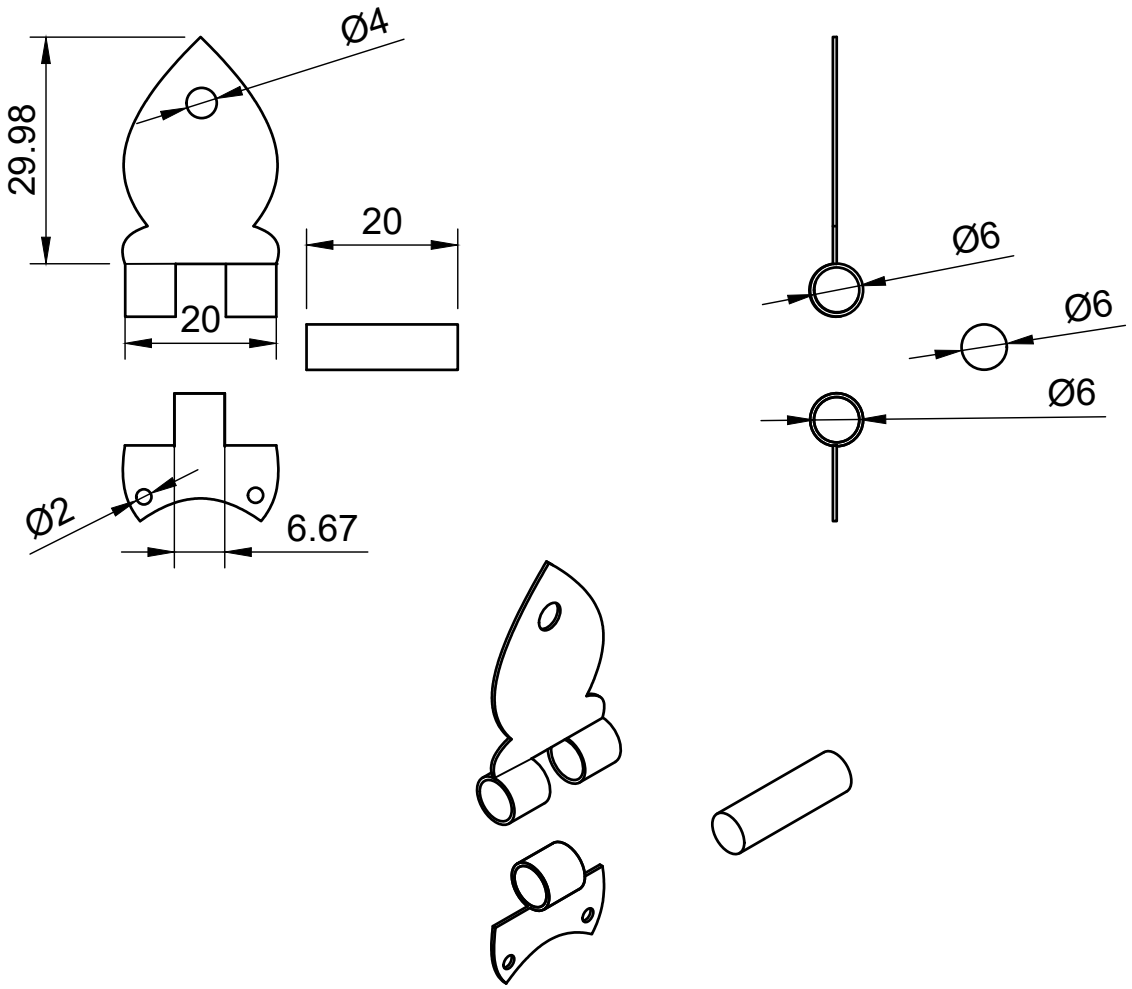
Top View



Isometric View

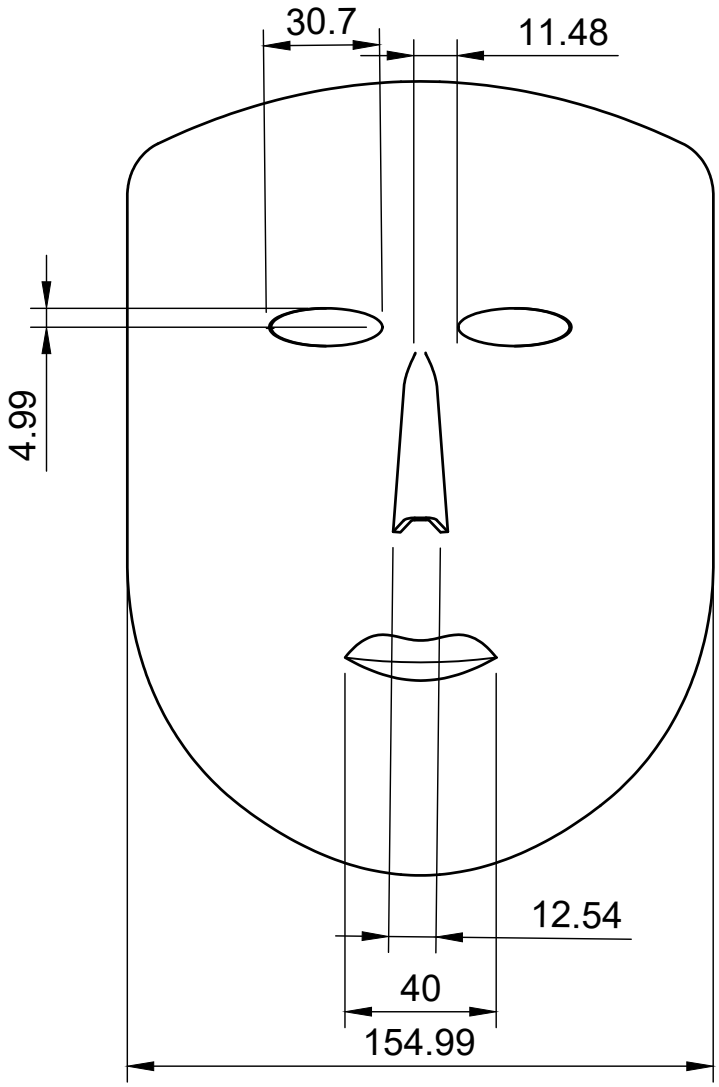
Cap Top Joint

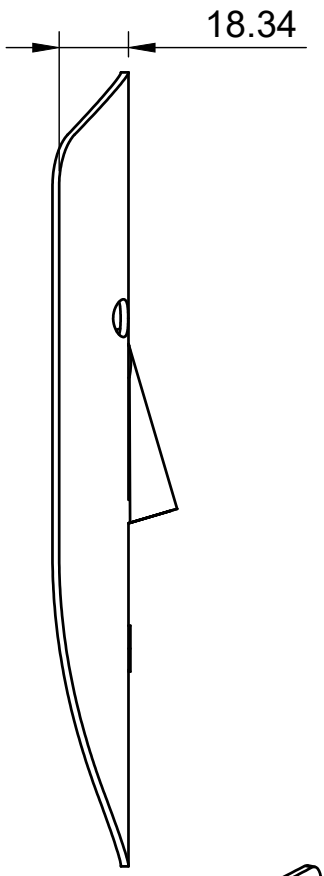
Material: GI Sheet (Thickness: 0.35 mm)
Process: Sheet Metal Work
Quantity: 1
Scale 1:1

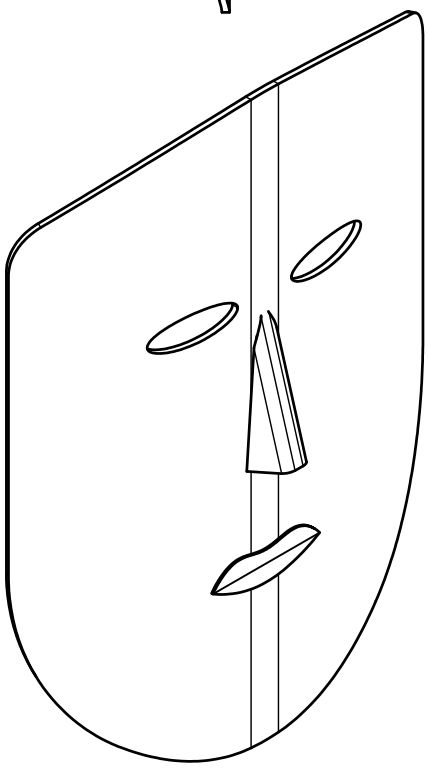


Clip Drawing

Material:GI Sheet (Thikness 0.5 mm)
Process: Cutting, Sheet Metal, Brazing
Quantity: 1
Scale 1:1

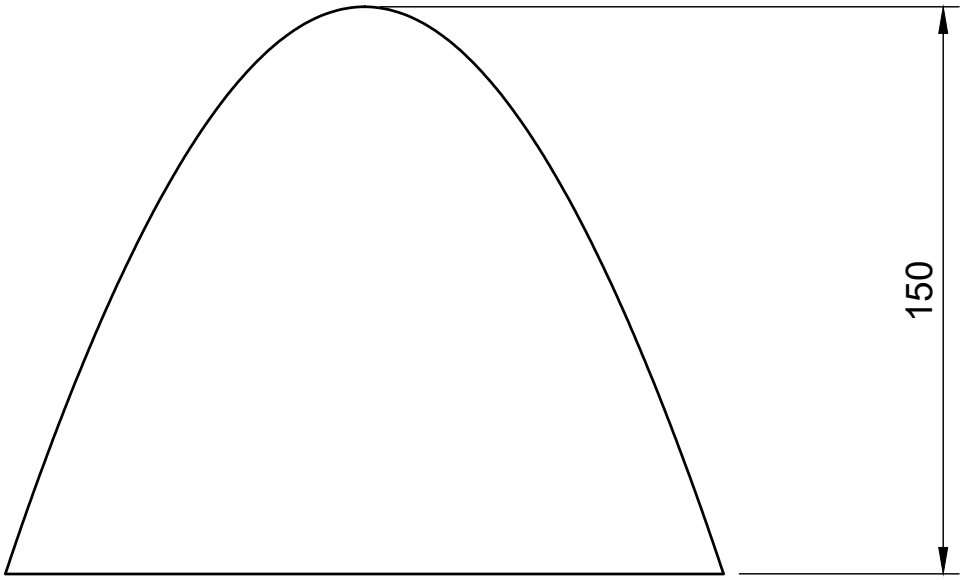


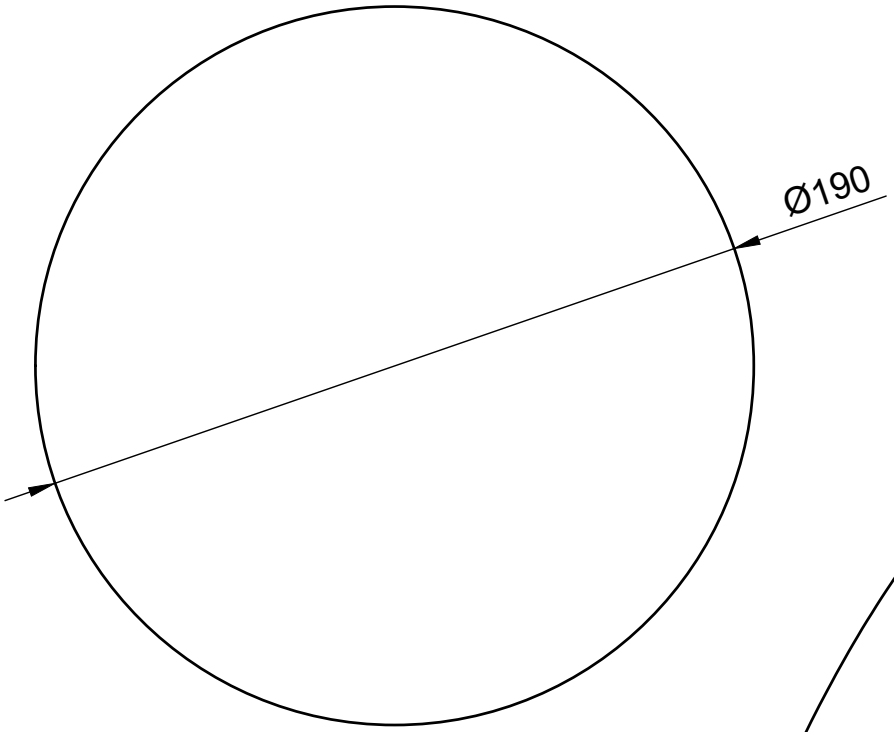


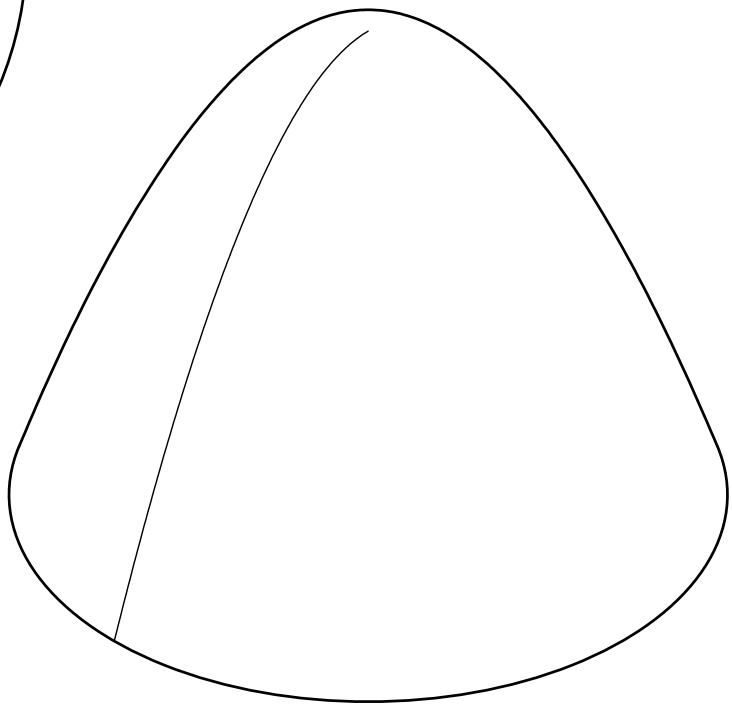


Face

Material: Aluminium
Process: Moulding & Casting
Quantity: 1
Scale 1:2

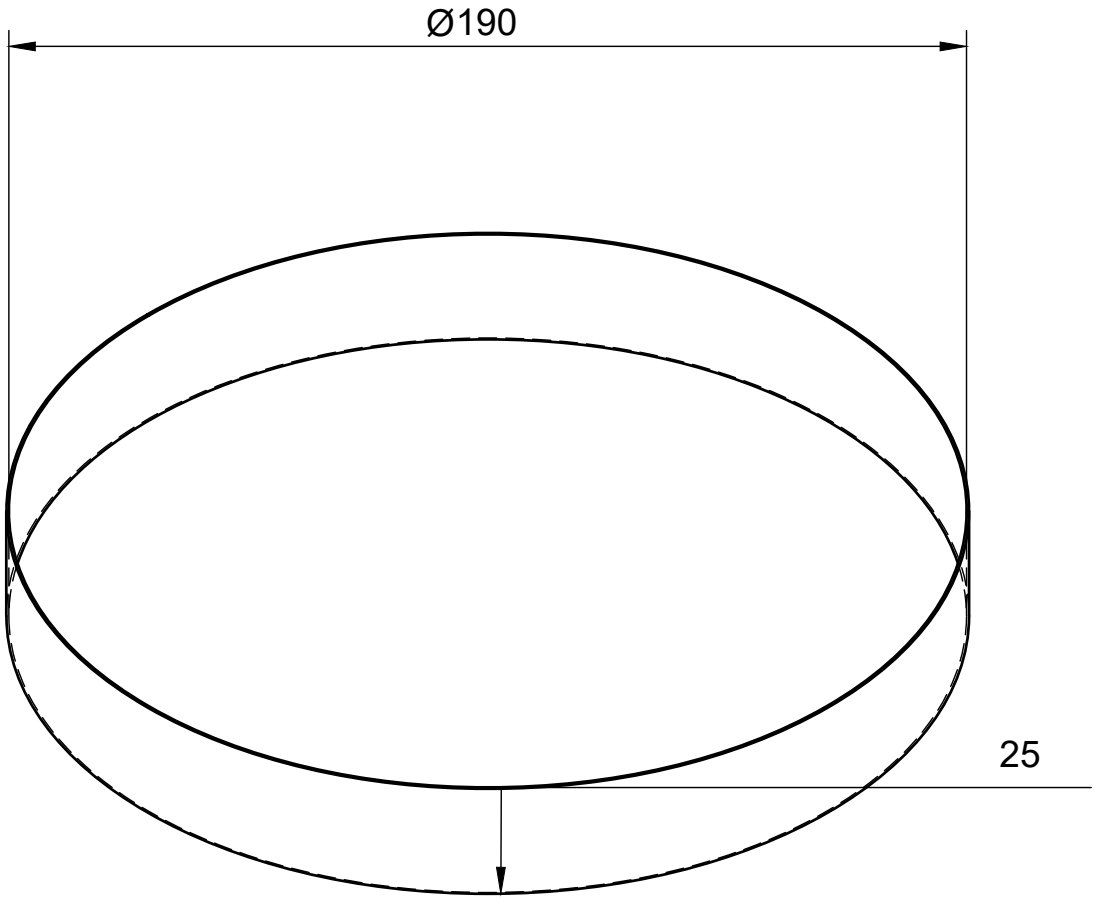






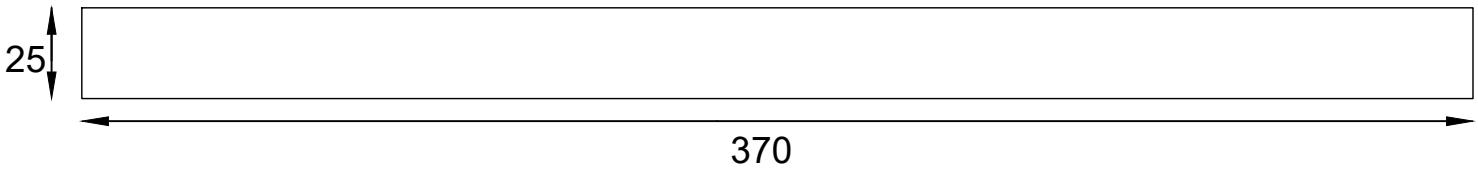
Metal Cap

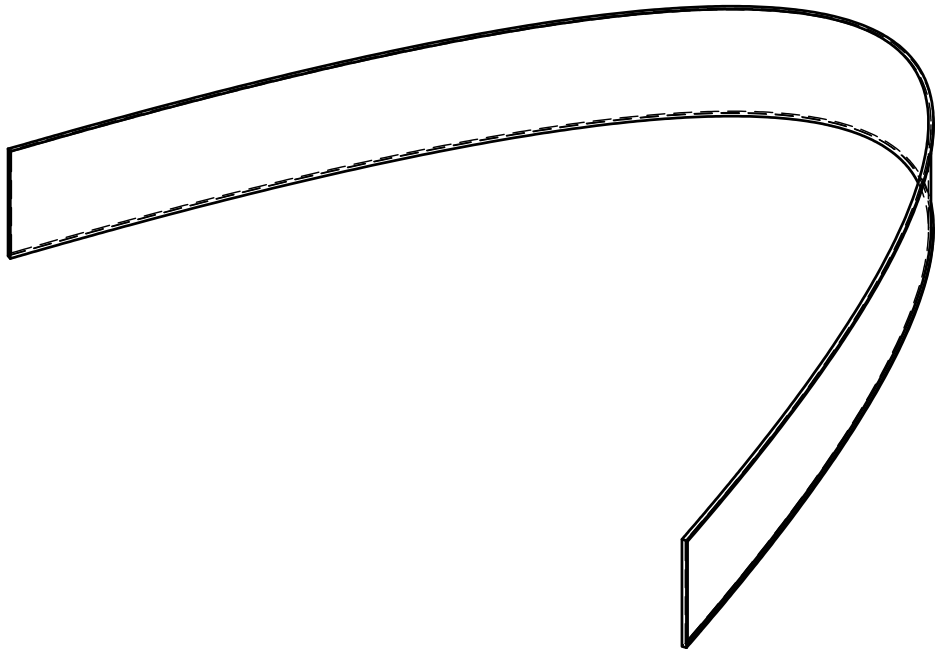
Material: GI Sheet (Thikness 0.35 mm)
Process: Cutting, Sheet Metal, Riveting
Quantity: 1
Scale 1:2



Metal Cap Rim

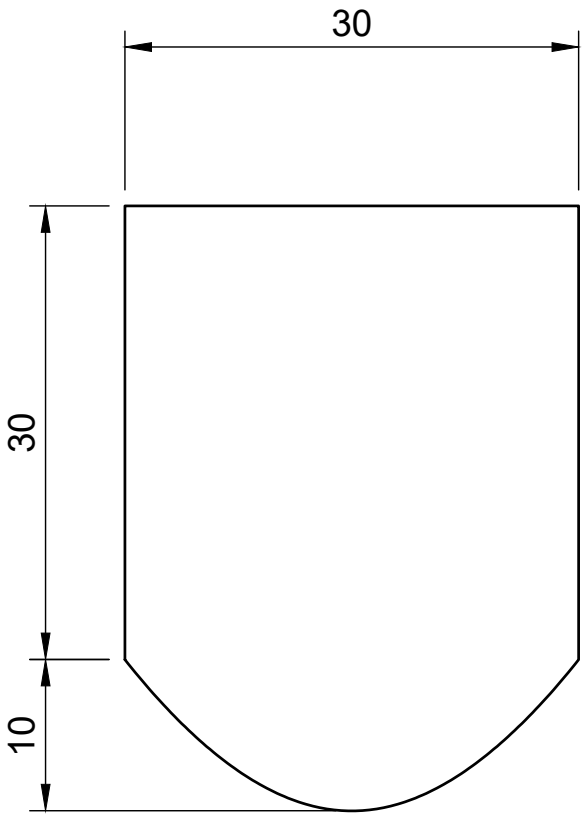
Material:GI Sheet (Thikness 0.5 mm)
Process: Cutting, Sheet Metal Work
Quantity: 1
Scale 1:1.5

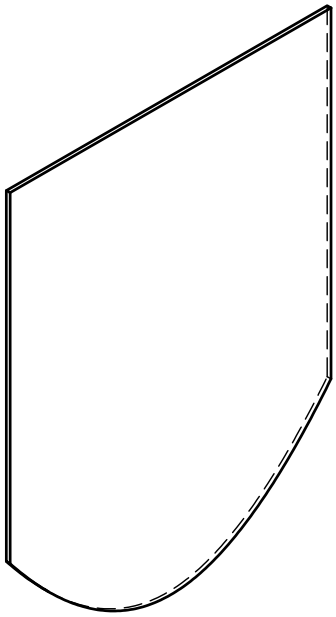




Metal Strip

Material:GI Sheet (Thikness 0.5 mm)
Process: Cutting, Sheet Metal, Riveting
Quantity: 2
Scale 1:2





Petals

Material:GI Sheet (Thikness 0.35 mm)
Process: Cutting, Sheet Metal,
Quantity: 80 (Approx)
Scale 2:1