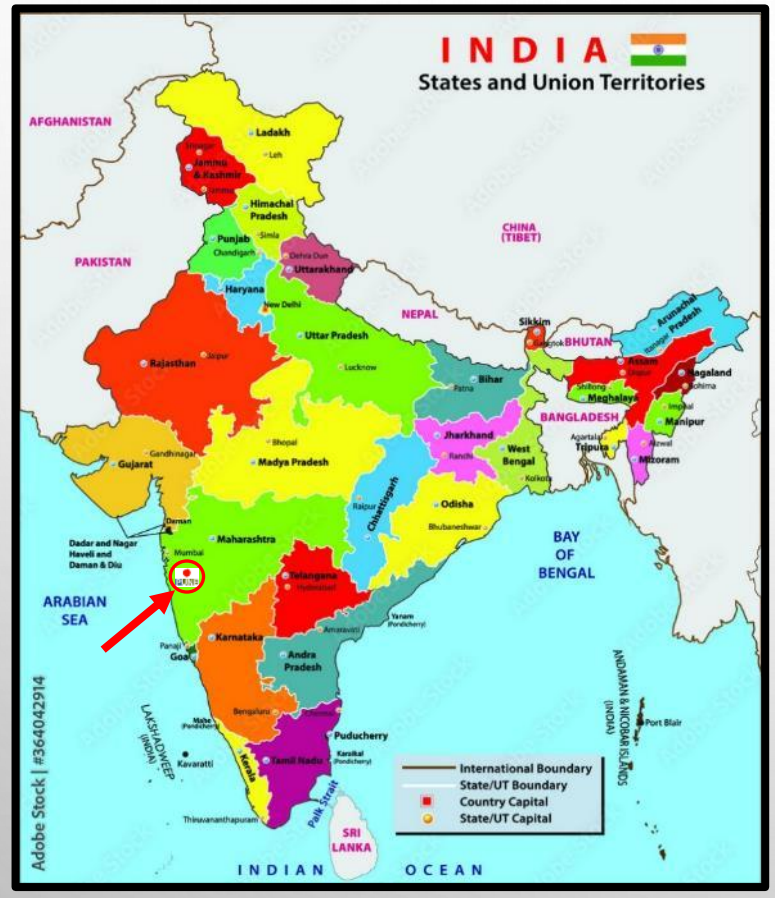
WEL-COME

OUR PRESENCE IN INDIA



- **Factory Name**:-Georubric Engineers Pvt.Ltd

- **Address** :- Plot No B-91, Phase-II, Bhamboli MIDC,Chakan, Tal-Khed, Dist-Pune, Pin Code-410501.

COMPANY INTRODUCTION

- Georubric Engineers is founded on date 19 Jan-2021.
- We are Developing & Manufacturer of Electrical Vehicle battery busbar.
- We are expertize in manufacturing various types of busbar.
- Our core is the production & supply of technical laser weld component for electric vehicle battery & Solar Energy store batteries.
- We have high speed & high quality Laser Welding Machines, Laser Cutting Machine, CNC Bending Machine (CNC Press break) etc.

OUR VISION & MISSION

- For our customer :- To offer them best quality product & outstanding service that make every customer smile.
- For our employees :-To provide them safe environment in which every learn grows and prosper.
- To be the customer first choice.
- To be Maximize growth by manufacturing top quality Laser Welding Component.
- To be the best in the eyes of our customers, employees and business partners.

CAPABILITY IN WELDING

- Type of Machine:- Laser welding machine
- Raw Material :- ETP Copper, Aluminium , Nickel

Machine No.	Machine Capacity	Machine utilization	Machine spare capacity
Laser Welding Machine (M/C-1)	3 KW	50%	50%
Laser Welding Machine (M/C-2)	4 KW	60%	40%
Laser Welding Machine Axis (M/C-3)	4 KW	30%	70%
Spot Welding Machine (M/C-4)	5000 Amp	30%	70%
Laser Cutting Machine	3KW	40%	70%
CNC BENDING MACHINE	5 AXIS	40%	60%
FUSION WELDING MACHINE	6 KW	40%	60%
FOIL CUTTING MACHINE	100 rpm	40%	60%

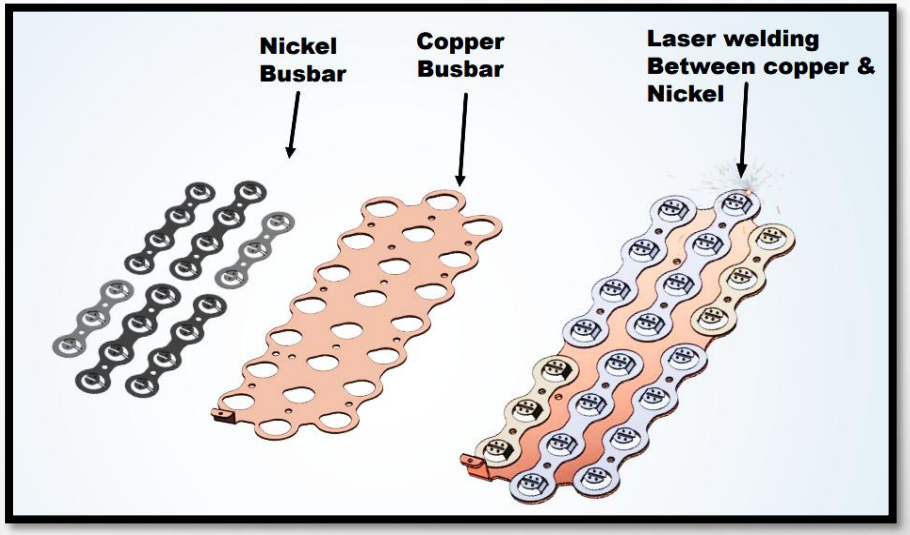
OUR PRODUCT DETAIL

- We have programmable laser welding machines.
- Our laser welding is a highly advanced and precise welding method that utilizes the power of a focused laser beam to join materials together.
- Our laser welding specialty is contact free, high speed, precise welding and the welding joint quality is very strong and durable.
- We have started manufacturing flexible busbars.
- We have battery cell spot welding machines and fusion/ultra-sonic welding machines.
- Our products are used in EV two-wheelers, EV three-wheelers, and EV four-wheeler batteries

Copper Nickel Busbar (sandwich busbar Cu+Ni)

What Is A Copper Nickel Sandwich?

- A copper-nickel sandwich is a method used to attach pure copper to lithium-ion cells. A small piece of nickel is placed above the copper above the cell intending to be welded. The welding is done from the top where the welding current enters into the nickel, then into the copper, then back into the nickel, and finally back out through the other welding electrode.
- A lithium-ion battery can be constructed with either nickel or copper as the main conductor. Nickel has anti-corrosion properties and is easy to weld. In contrast, copper will readily corrode and it's difficult to weld. In fact, copper is so difficult to weld that it can't be welded directly with most spot welders.



Copper Nickel Busbar (sandwich busbar Cu+Ni)

Laser welding Application

- Laser beam welding is a fusion welding process in which two metal pieces are joined together by the use of laser. The laser beam provides a concentrated heat source, focused to the cavity between the two metal pieces to be joined.

- The copper nickel busbar is used for high current requirement battery pack. As we know, the copper is best material for conduct current, but it is hard to go through the resistance welding. The combination of copper and nickel, copper is Carrying current and nickel is for spot welding, it perfectly solves the connection problem for high current battery packs.

FLEXIBLE BUSBAR: -

Fusion welding Application

- Fusion Welding is a process in which atoms are converted into an ordered solid state from a liquid disordered state. The conversion rate for the process of solidification can be achieved by following the kinetic laws. The movement of atoms for the conversion of liquid can be observed by these laws. As the temperature drops further, the molten metal loses energy, and crystals begin to form. This process starts near the mold walls, where it cools first. These crystals eventually become grains within the final structure. If the metal solidifies slowly, the grains are longer. If it cools quickly, the grains are visibly shorter. The crystals (or dendrites) continue to form and harden until the entire melt solidifies.

FLEXIBLE BUSBAR: -

Fusion welding Application

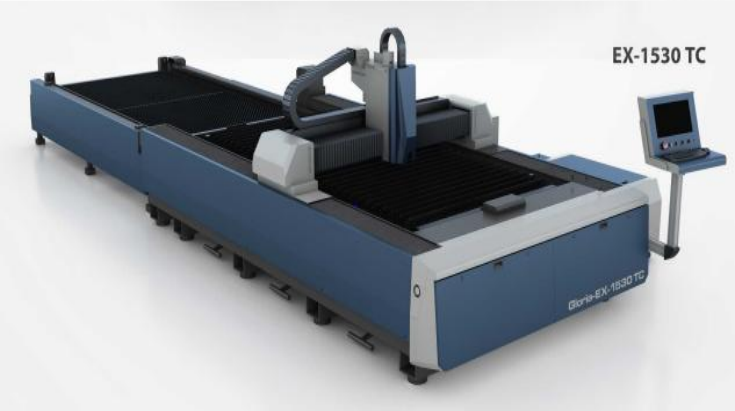
- The Copper Laminated Flexible Jumpers are manufactured by the Electro-Solidification process, in which bunch of copper foils fuses under high pressure and current to form a homogenous bond. They have a constant cross section over whole length.

- During the solidification process, the metal is shrinking. Shrinkage occurs because most metals are less dense as a liquid than a solid. Shrinkage can create a void at the last point to solidify. Avoiding shrinkage defects can be accomplished by the use of risers and other techniques. Risers, also known as feeders, are reservoirs built into a metal casting mold that will help prevent cavities in the casting.

LASER CUTTING MACHINING: -

FIBRE LASER CUTTING MACHINE :-

- High Cutting Speed: Typically ranging from 10-30 meters per minute, depending on the material and thickness.
- Precision: The precision can be as high as ±0.03 mm.
- Metal Types: The machine can cut a wide range of materials, including carbon steel, stainless steel, aluminum, brass, and copper.
- Ability to Cut Thin and Thick Materials: The machine can cut both thin materials (like sheet metal) and thicker sections, though the cutting speed and quality will vary based on material thickness.



CNC BENDING MACHINING: -

CNC BENDING MACHINE :-

- High Precision: CNC bending machines provide high repeatability and accuracy, producing parts that match design specifications precisely. Some machines can achieve tolerances of ±0.1 mm or better.
- Programmability: Complex bending sequences can be programmed into the CNC system, allowing for easy automation and reducing manual errors. The machine can automatically calculate and perform multiple bends in a single cycle
- Tooling Flexibility: CNC bending machines can be equipped with different types of tooling (punches, dies, rollers) to handle various materials and bending requirements.

HAND HELD LASER WELDING MACHINING: -

HAND HELD LASER WELDING MACHINE :-

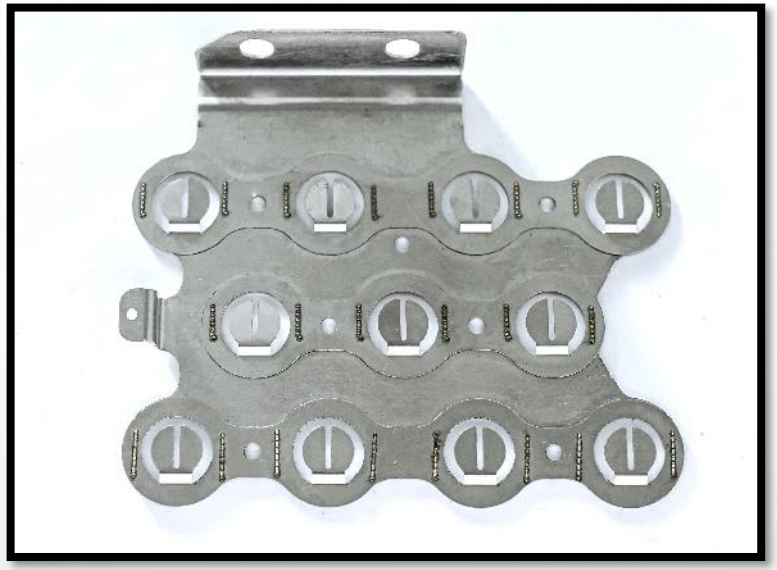
- High Precision: CNC bending machines provide high repeatability and accuracy, producing parts that match design specifications precisely. Some machines can achieve tolerances of ±0.1 mm or better.
- Programmability: Complex bending sequences can be programmed into the CNC system, allowing for easy automation and reducing manual errors. The machine can automatically calculate and perform multiple bends in a single cycle
- Tooling Flexibility: CNC bending machines can be equipped with different types of tooling (punches, dies, rollers) to handle various materials and bending requirements.

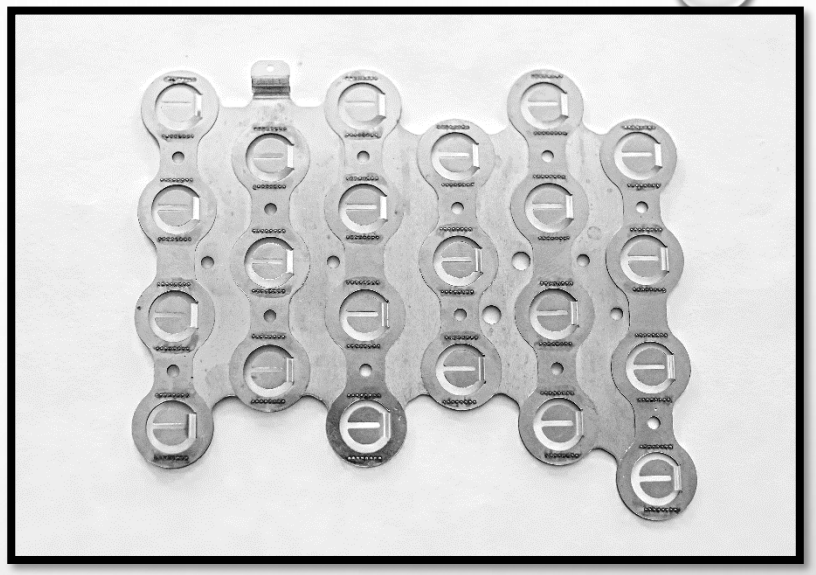
BUSBAR MACHINING: -

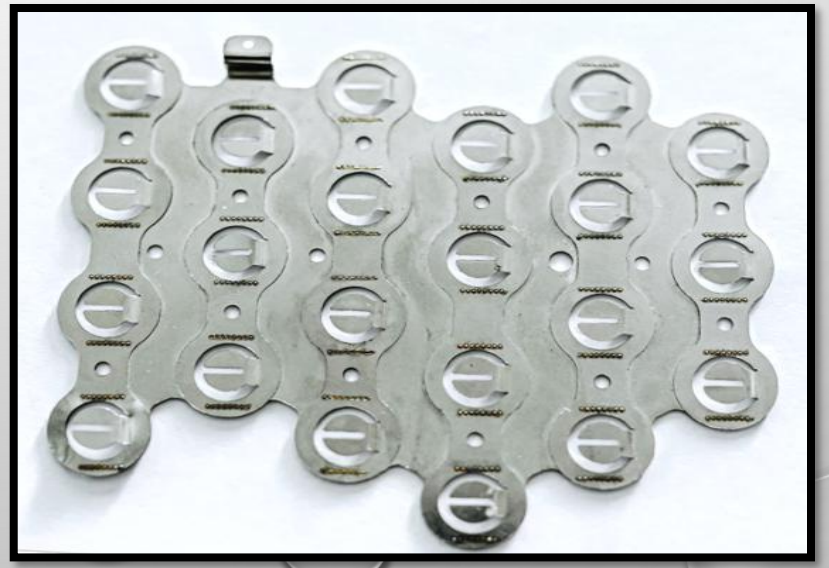
M1TR MILLING MACHINE :-

- Vertical Spindle:-The M1TR machine features a vertical spindle, which allows it to perform a variety of operations like drilling, milling, and surface grinding, especially for small to medium-sized parts.
- Table Size:-The machine typically comes with a large table size, which can support a range of workpieces. The dimensions can vary depending on the specific model, but it's designed to hold heavy and large components.
- Manual Control:-The M1TR Milling Machine is often manual, meaning that the operator controls the movements of the table and spindle.
- Feeds and Speeds:-The machine offers adjustable feed and speed settings to accommodate different materials and cutting requirements, ensuring smooth cutting and optimal surface finishes.

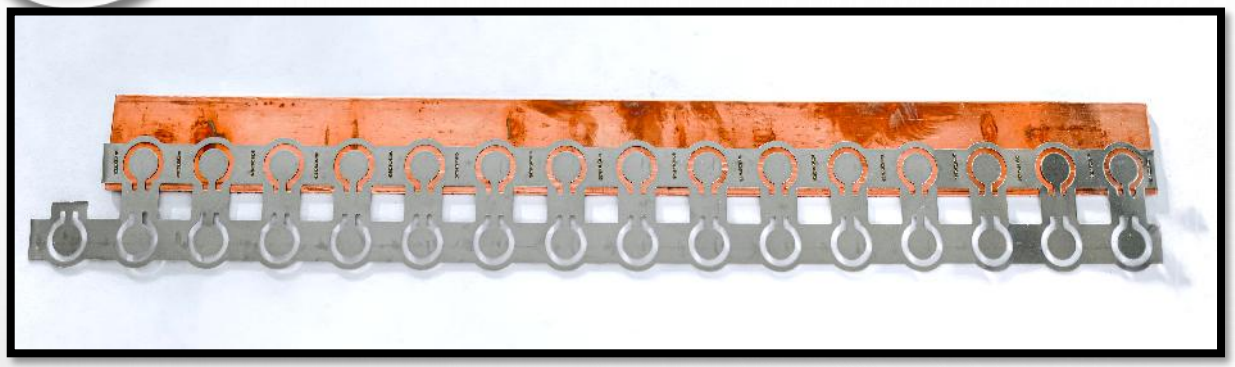
OUR LASER WELDING PRODUCT

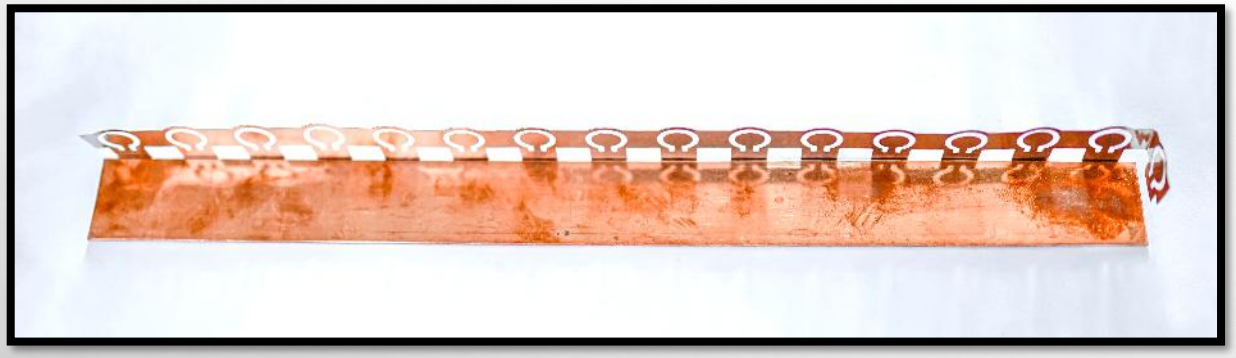


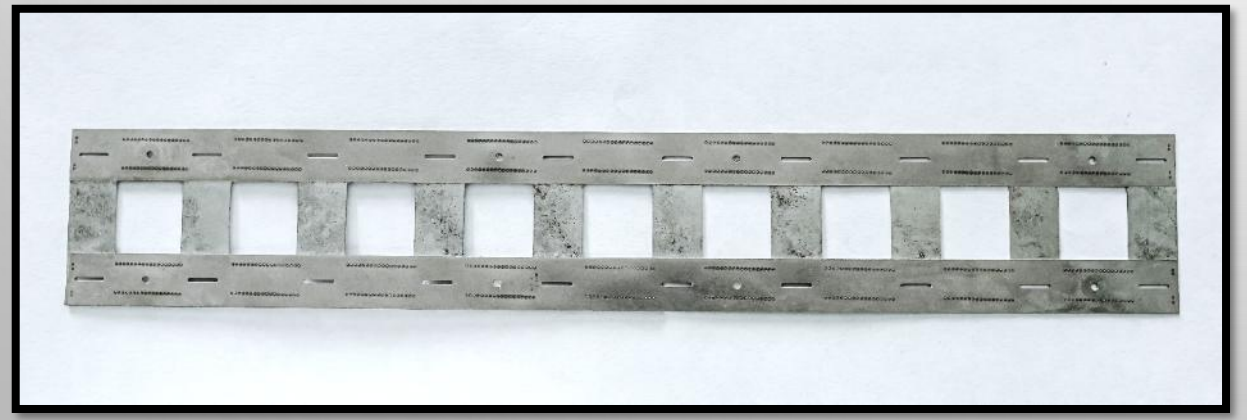


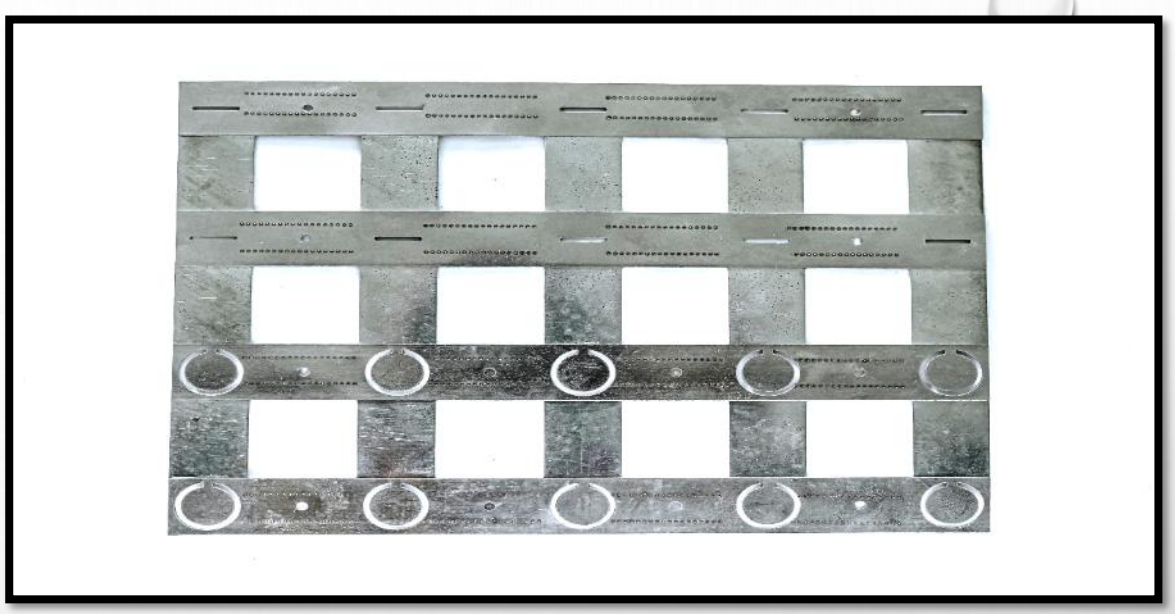


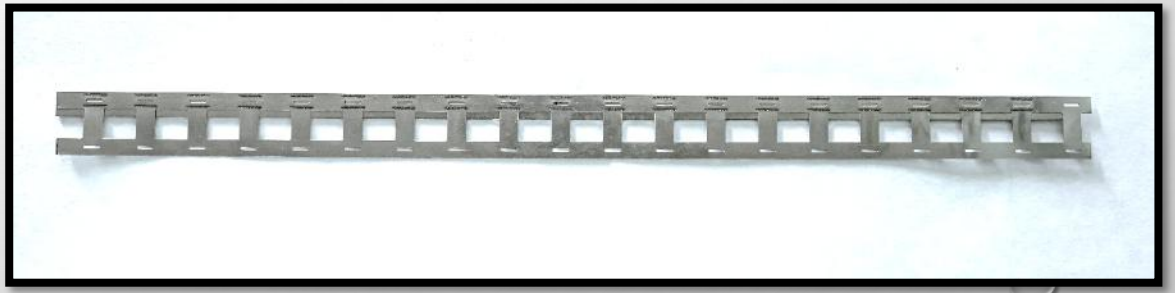
OUR LASER WELDING COMPONENT



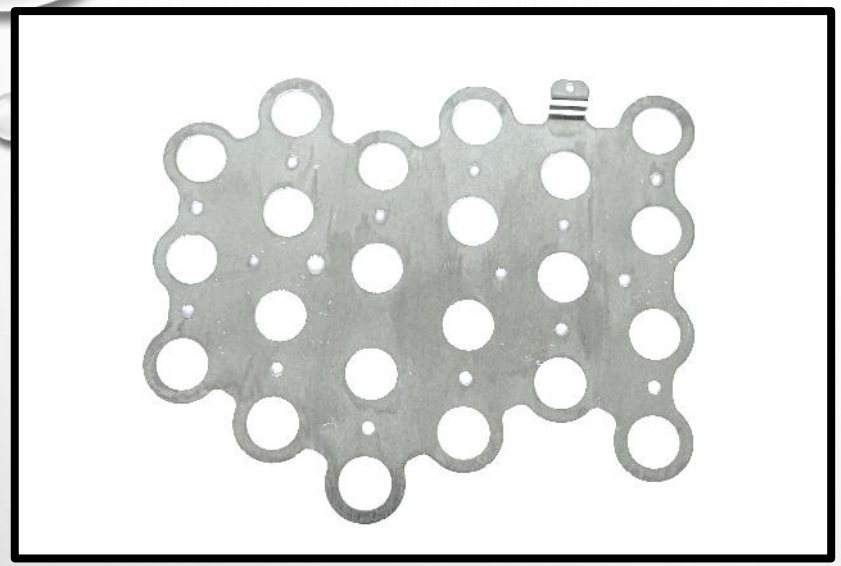


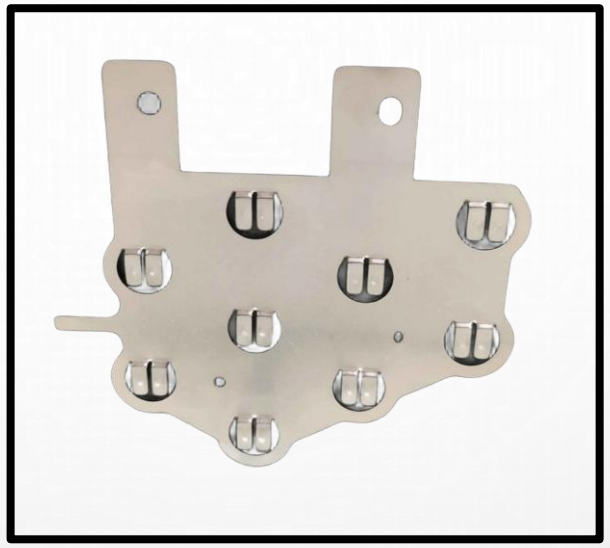


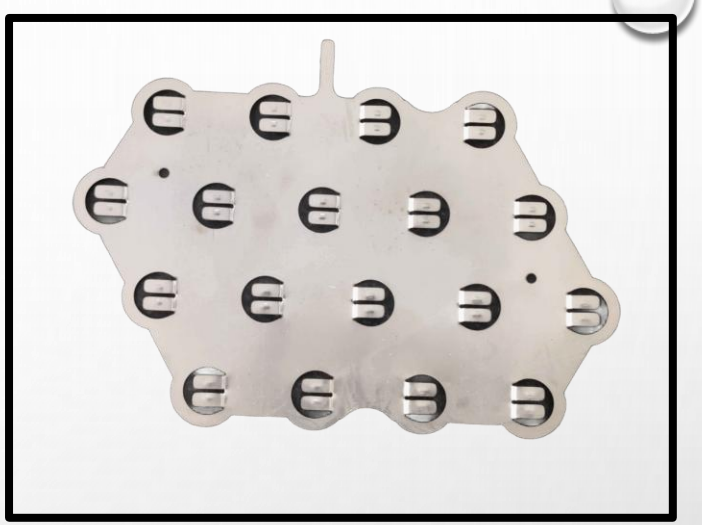


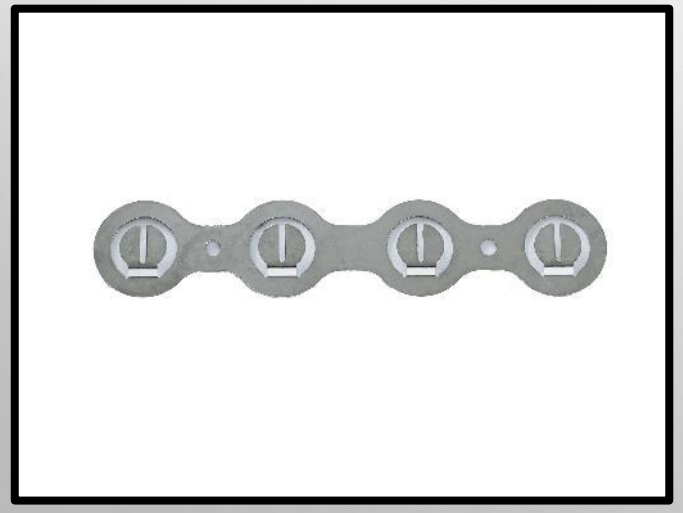


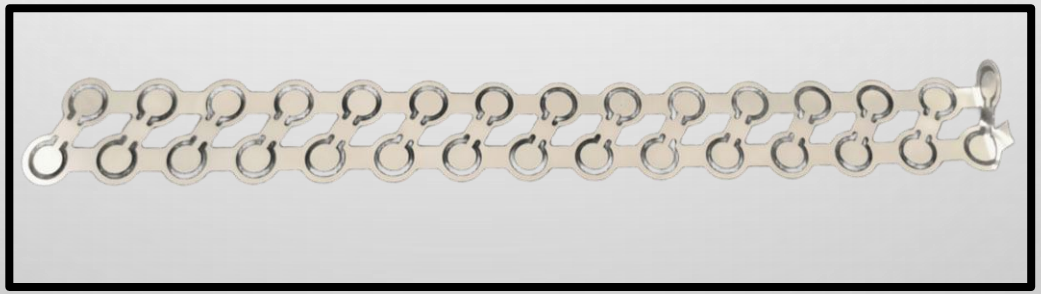
OUR STAMPING COMPONENTS

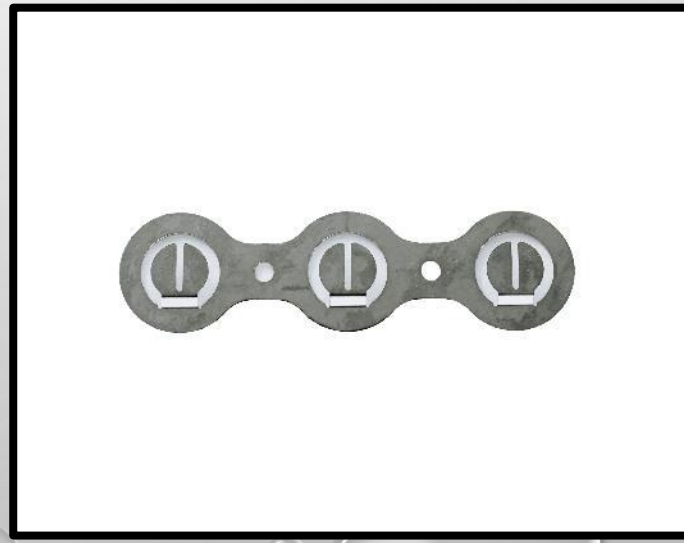




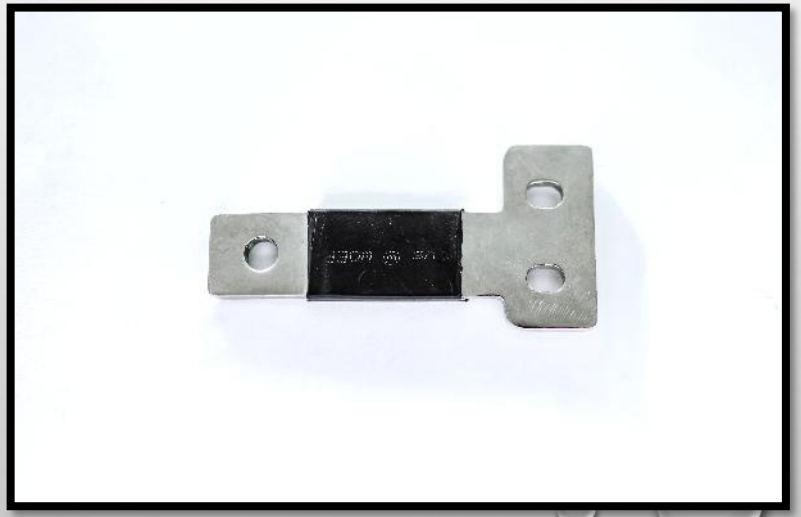


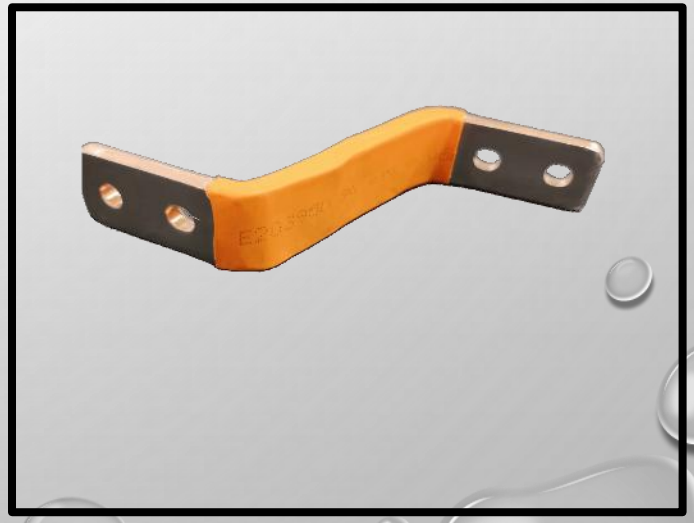




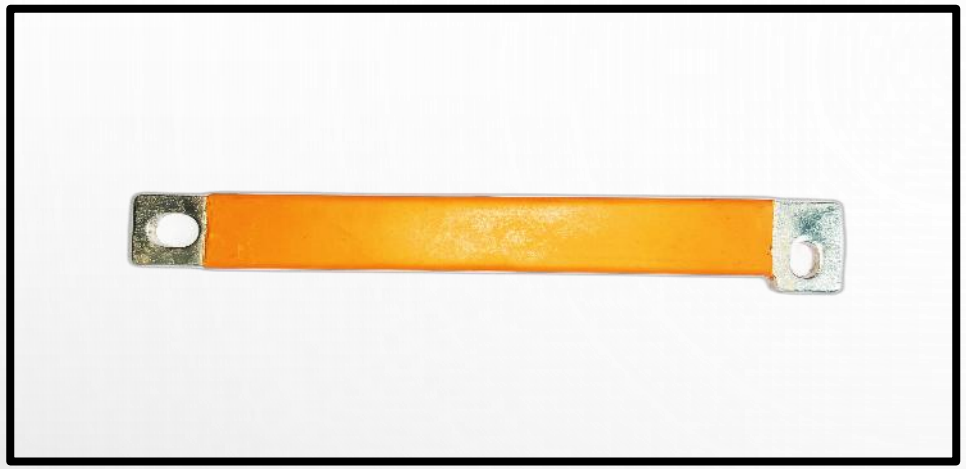


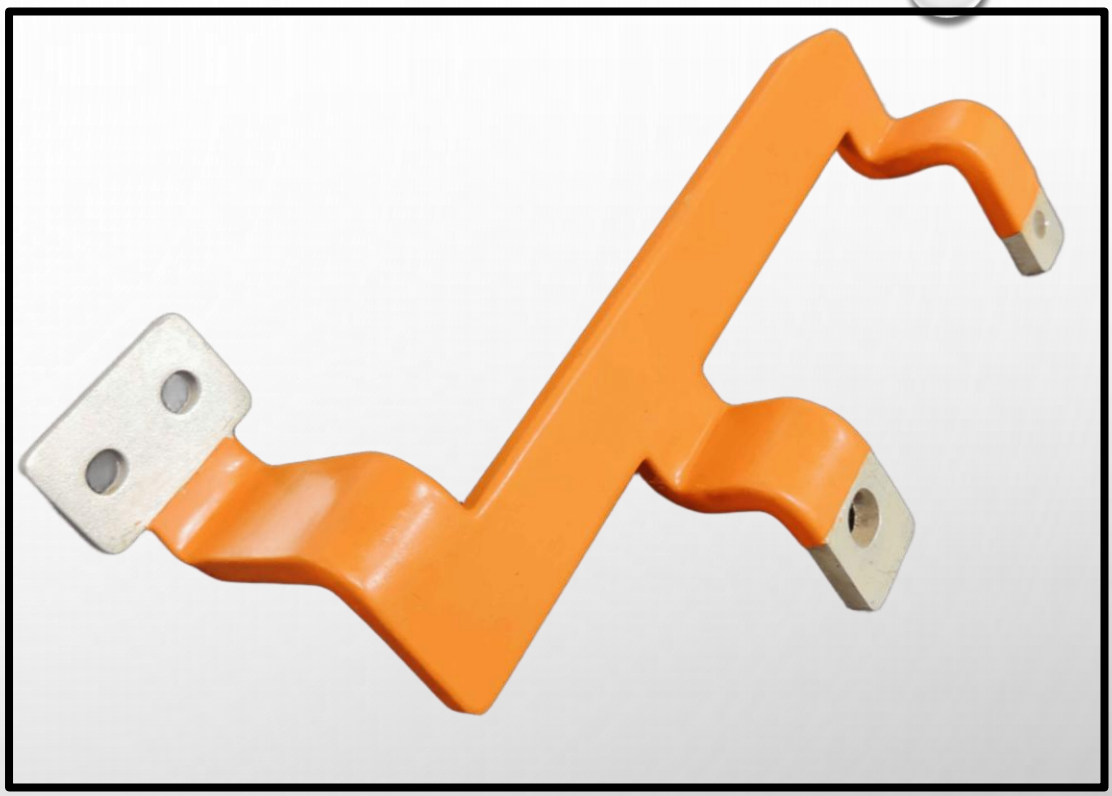
OUR FUSION WELDING COMPONENT

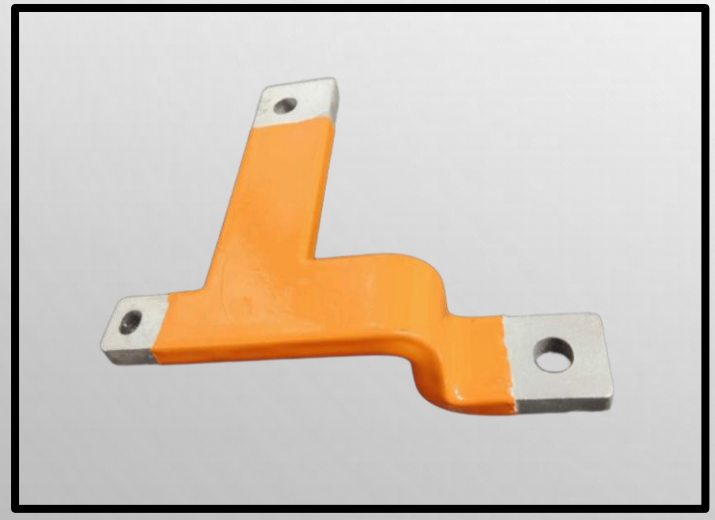




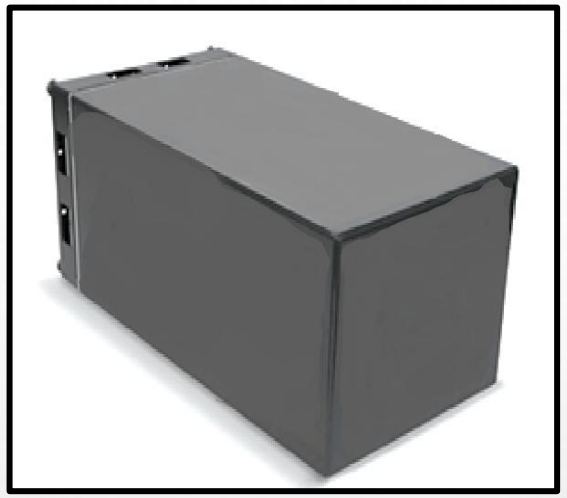
OUR COPPER HARD BUSBAR







APPLICATION OF OUR PRODUCT



BUSBAR → BATTERY → EV VEHICLE

QUALITY OBJECTIVE

- To provide satisfactory customer service through continuous improvement of product quality.
- 100% on time every time delivery.
- To improve response time to customer complaint.
- To reduce machine unscheduled breakdown.
- To deliver material on time.
- To enhance knowledge of employees.
- To reduce No. of accidents.

OUR VALUABLE CUSTOMER

EXIDE

BG BGAUSS

BATTRIXX FUTURE ENERGY

INVERTED

LiB Ions to Power

MATTER

RE+ REPLUS A LNJ Bhilwara Group Company

KABRA ExtrusionTechnik

KINETIC

NEO ENRG

KINETIC GREEN A Better Tomorrow

OUR VALUABLE CUSTOMER

GEORUBRIC

Livguard

FORSEE POWER

ENDURANCE

S.M.AUTO

Quantum eScooters

REVOLT
INDIA'S NO.1 ELECTRIC MOTORCYCLE

cygni

THE ePLANE CO.

QUALITY MANAGEMENT SYSTEM

- **ISO-9001-2015 CERTIFIED COMPANY**
- **Quality Checking Aids**

1. Video Measuring Machine (VMM)
2. Digital Force Gauge
3. Digital Vernier Calliper (DVC)
4. Digital Micrometre (DMM)
5. Digital Height gauge (DHG)
6. Feeler gauge
7. Bevel protractor

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THANK YOU FOR WATCHING THIS PRESENTATION !