

WEL-COME

OUR PRESENCE IN INDIA

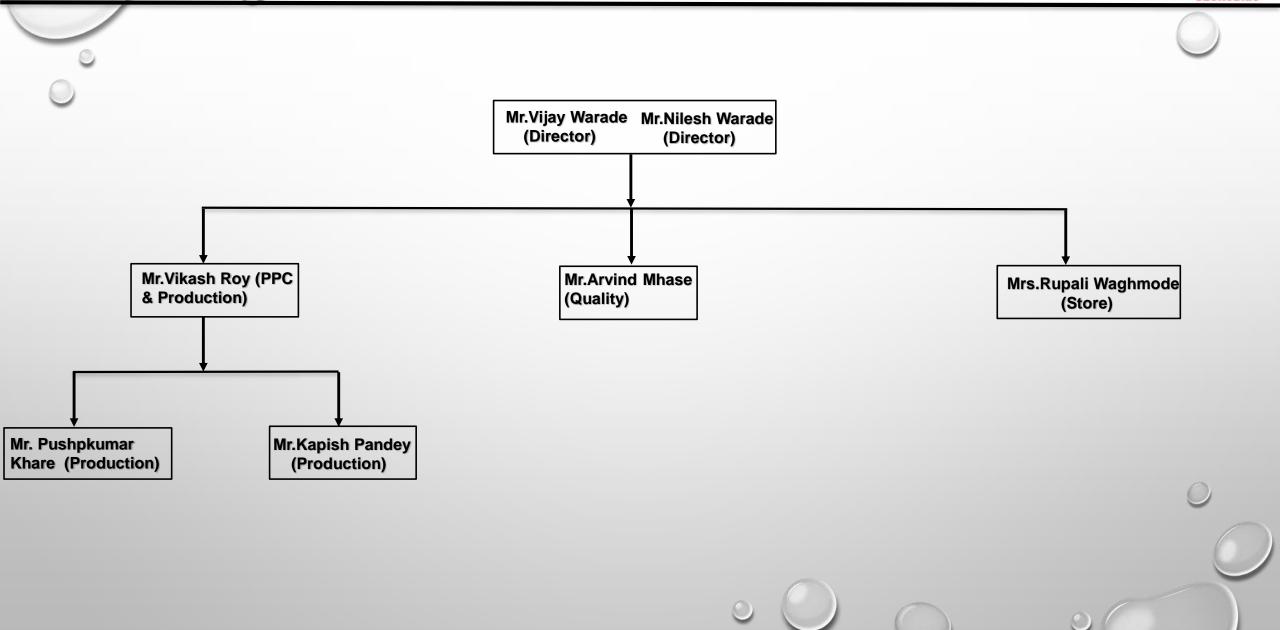




- > <u>Factory Name</u>:-Georubric Engineers Pvt.Ltd
- Address: Plot No B-91, Phase-II, Bhamboli MIDC, Chakan, Tal-Khed, Dist-Pune, Pin Code-410501.

ORGANIZATION CHART





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.
- > We have high speed & high quality Laser Welding Machines.



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 , Nickel

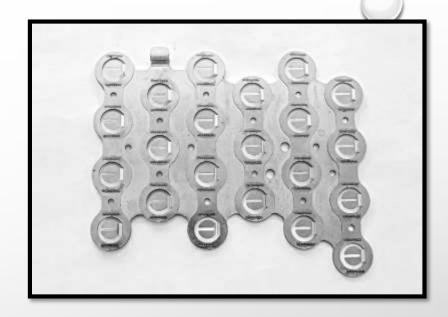
| Machine No. | Machine Capacity | Machine utilization | Machine spare capacity |
|---------------------------------------|------------------|---------------------|------------------------|
| Laser Welding Machine (M/C-1) | 3 KW | 50% | 50% |
| Laser Welding Machine (M/C-2) | 4 KW | 60% | 40% |
| Laser Welding Machine Axis (M/C-3) | 4 KW | 30% | 70% |
| Spot Welding Machine (M/C-4) | 5000 Amp | 30% | 70% |

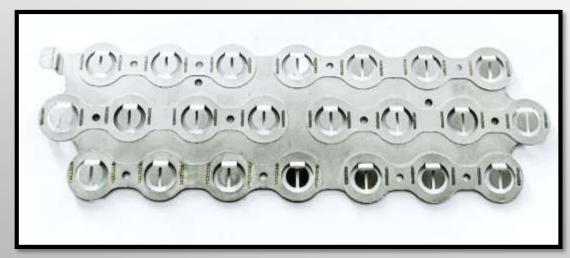
OUR LASER WELDING PRODUCT

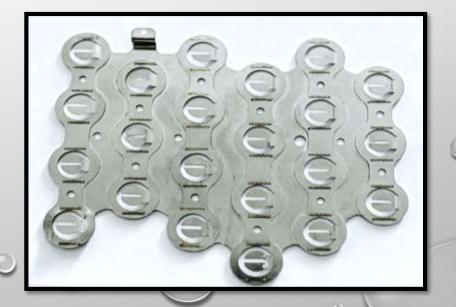






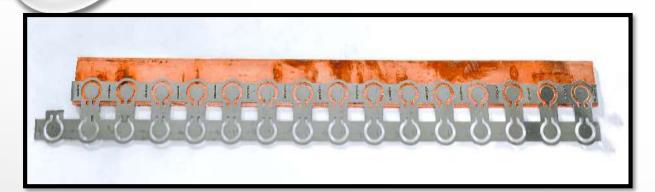


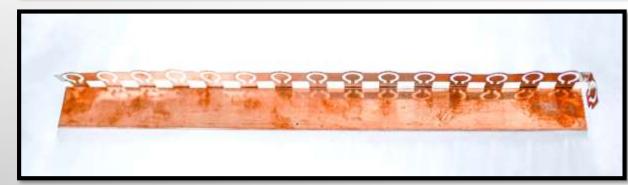


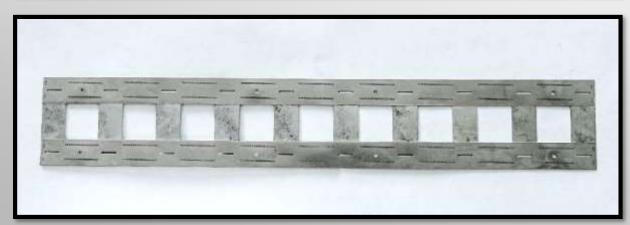


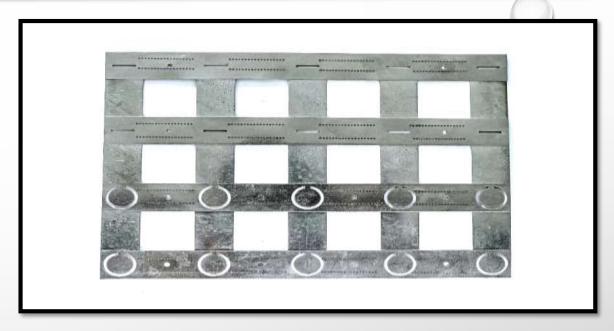
OUR LASER WELDING COMPONENT

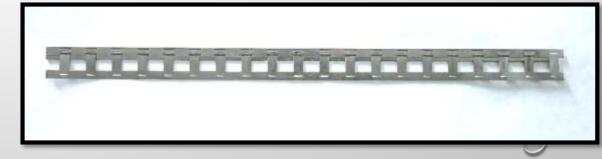














OUR FUSION WELDING COMPONENT



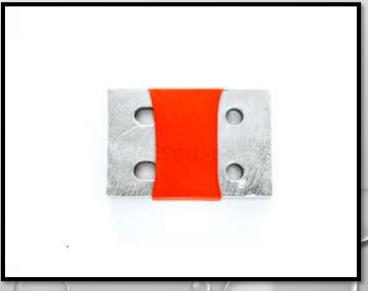












APPLICATION OF OUR PRODUCT













BUSBAR

BATTERY



EV VEHICLE

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/ultrasonic welding machines.
- Our products are used in EV two-wheelers, EV three-wheelers, and EV four-wheeler batteries

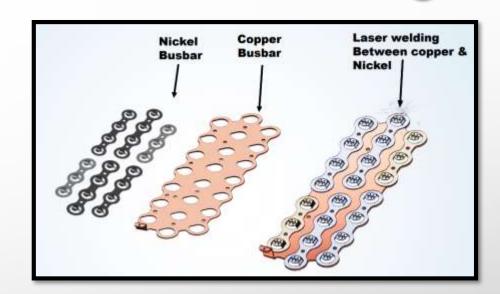


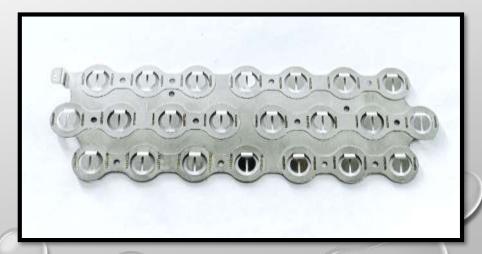
Copper Nickel Busbar (sandwich busbar Cu+Ni)



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 anticorrosion 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.







BUSBAR MACHINING: -



M1TR MILLING MACHINE:-

A milling machine removes material from a work piece by rotating a cutting tool (cutter) and moving it into the work piece. Milling machines, either vertical or horizontal, are usually used to machine flat and irregularly shaped surfaces and can be used to drill, bore, and cut gears, threads, and slots.

A milling machine is a machine tool that cuts metal as the workpiece is fed against a rotating multipoint cutter. The milling cutter rotates at a very high speed because of the multiple cutting edges, it cuts the metal at a very fast rate. This machine can also hold single or multiple cutters at the same time.



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















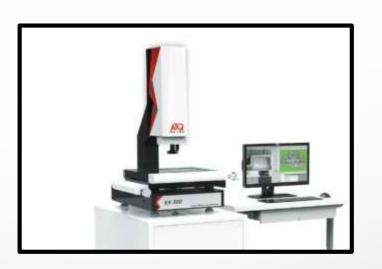




QUALITY MANAGEMENT SYSTEM



- > ISO-9001-2015 CERTIFIED COMPANY
- Quality Checking Aids
- 1. Video Measuring Machine (VMM)
- 2. Digital Force Gauge (0-500N)
- 3. Digital Vernier Calliper (DVC)
- 4. Micrometre











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