



**G CORNER**  
Design & Engineering Solutions

# **G CORNER** **DC ELECTRICAL** **HYDROGEN**

G Corner has been working with customers around the globe on providing DC electrical solutions for green hydrogen production plants. The production of green hydrogen is future and increasing speedily. It has been witnessed the increased demand from customers in Europe, America and Asia for bespoke busbar system solutions for hydrogen production for different process routes.

The primary route for green hydrogen production is from the use of electrolyser. Based on the G Corner team's experience in working on chemical plants chlorine electrolyser projects we have been able to influence our design capability for the supply of busbar systems for green hydrogen production projects.

G Corner realize that the green hydrogen production industry is in the early stages of development and can work with customers on research and development, prototyping and preproduction trials.

G Corner can also supply busbars and components for the hydrogen electrolyser and can work with the electrolyser design teams to come up with the optimum component designs for the electrolyser.





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# MAIN TRUNK BUSBARS

G Corner manufactures a large range of main trunk busbars for electro-refining and the electro-winning of base metals and certain chemicals such as Hydrogen chlorine with DC Electricity.

## Main trunk busbars are broken down in to three main sections:

- ▶ Main positive trunk/feeder busbars
- ▶ Main Negative trunk/feeder busbars
- ▶ Crossover or Back busbars

The main positive and negative busbars take the DC electrical supply from the transformer rectifier unit and then return the Current to the T/R unit. The crossover busbars provide the link at the end of the cell line between one row of electrolyzers or cells and the next. The sets of busbars are made up from laminations of large copper plates.

G Corner individually design each set of trunk busbars to each installation as there are a number of variables that need to be taken into account on each project or installation.

## These variables mainly consist of the following parameters:

- ▶ Operating Current/maximum output of the T/R unit
- ▶ Current density requirements of the busbars
- ▶ Site ambient temperatures
- ▶ Calculated temperature rise of busbars
- ▶ Watt losses in the busbars
- ▶ Busbar system volt drop

G Corner therefore will design and supply a balanced busbar system taking into account the above parameters and delivering an electrically efficient system.

The copper busbar used by G Corner is normally ASTM B152 and/or ASTM B187 Grand UNS C11000, which is high conductivity copper for electrical purposes, with an IACS value of 101%. The individual busbars are produced from cold rolled Copper plate to G Corner's own requirements. The individual copper plates are 'shaved' during the mill manufacturing process, to remove any excessive surface oxides and to give a good surface finish suitable for the electrical contact faces on the busbars.

