

Third Rail Current Collector

September 1, 2023 • vajiramandravi.com



About Third Rail Current Collector:

- The third rail systems are a **means of providing electric power to a train** through a conductor placed alongside the rails.
- Kolkata Metro Railway using steel Third Rail for the last 40 years.
- Kolkata Metro Railway has now decided **to use composite Aluminium** Third Rail in all the upcoming corridors being undertaken for construction along with retro fitment in existing corridor with steel Third Rail.
- With this Metro Railway, Kolkata would become the **member of elite club of London, Moscow, Berlin, Munich, and Istanbul Metro** who have also shifted from steel Third Rail to Aluminium Third Rail.
- The obvious **advantages of aluminium composite** Third Rail over steel Third Rail are
 - Reduction in resistive current loss and improved Traction voltage level.
 - Reduced maintenance and life cycle cost.

- Improvement in the **efficiency of train** operations.
 - Huge **improvement in Energy Efficiency**
 - **Reduction in carbon footprint**
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Q1) What is Aluminium?

Aluminium is a chemical element with the symbol Al and atomic number 13. It is a lightweight, silvery-white, and non-ferrous metal, making it a highly valuable material with a wide range of industrial applications.

Source: [Kolkata Metro Railway is set to become member of elite club of London, Moscow, Berlin, Munich, and Istanbul Metro](#)

Source: <https://vajiramandravi.com/current-affairs/third-rail-current-collector/>

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