



**RR** ELECTRICAL ACCESSORIES



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Ram Ratna House, Oasis Complex, P. B. Marg,  
Worli, Mumbai - 400 013, India.  
Tel : +91-22-2494 9009/ 2492 4144  
Fax : +91-22-2493 2339

[www.rrglobal.in](http://www.rrglobal.in)

**Bentonite & Earthing Backfill Compound**

## RR Bentonite

Bentonite is a ground enhancement material used to lower the resistance to earth. Bentonite is often used to reduce the resistance between the soil and earth-electrode (earth rod or earth mat) by retaining moisture. The naturally occurring Bentonite compound consists mostly of montmorillonite

## Resistivity

All earthing aggregates can be called conductive with a resistivity of 5 ohms meters or less. Bentonite has a typical resistivity level of around 3 ohms.

## Versatility

One of Bentonite's key features is the ability to absorb rain water once installed, helps increase the conductivity but it dries out causing it to shrink or even being washed away entirely. It requires maintenance every few years, such as adding additional water or salts to continue to achieve the desired earth values.

The property of swelling on contact with water makes sodium bentonite useful as a sealant, since it provides a self-sealing, low-permeability barrier. Other uses include making slurry walls waterproofing of below-grade walls, and forming other impermeable barriers, e.g., to seal off the annulus of a water well or to plug old wells.

It is often used in drilling mud for oil and gas wells and boreholes for geotechnical and environmental investigations. Various surface modifications to sodium bentonite improve some rheological or sealing performance in geo environmental applications.

## Cost effectiveness

Being considerably cheaper, Bentonite offers an earthing solution for cost conscious buyers, although the cost of maintenance every few years should be considered, it can still work out as an effective solution.



## RR Earthing Backfill Compound

RR Earthing Backfill compound is a Synthetic superior conductive material manufactured specifically for earthing purposes to improve earthing effectiveness in areas of poor conductivity. It is manufactured using specific raw materials and minerals such as conductive cement, graphite, sodium montmorillonite etc... mixed in carefully controlled ratios. The RR Backfill compound then goes through a range of treating process, designed to create a consistent, fit-for-purpose earthing compound.



## The resulting precise measured mixture is virtually dust free and has exceptional electrical properties

- It improves conductivity of the earth electrode and ground contact area. It has the following characteristics.
- It has low resistivity preferably 0.2-1.5 Ohm-meters.
- It is a chemically inert compound and as such is non-corrosive to steel or copper, it does not attack cement structures and has a pH level within the neutral range.
- It becomes a permanent solid structure, especially when mixed with concrete and it doesn't require periodic maintenance like adding water and salts. This ensures that it continues to achieve desired earth values for a longer period of time.
- It is non toxic, non reactive, non explosive & non corrosive.
- It is thermally stable in-between -10 degree centigrade to +60 degree centigrade ambient temperature.
- It doesn't decompose or leach out with time.
- It doesn't pollute the soil or local water table and meets environmental friendly requirement for landfill.
- It expands & swells considerably and removes entrapped air to create strong connection between earth electrode and soil.
- It diffuses into soil pores and creates conductive roots enlarging conductive zone of earth pit.
- It is suitable for any kind of electrode and all kinds of soils of different resistivity.

