

Earthing & Grounding Guide for Homes

Why home earthing matters and how the earth conductor is sized.

Earthing gives fault current a safe path into the ground instead of through a person. It is what lets a fuse, MCB or RCCB trip the moment a live wire touches a metal appliance body — turning a potentially fatal shock into a tripped breaker.

Why every home needs it

Without proper earthing, a metal appliance can become live and feel fine to the touch until you complete the circuit. Good earthing plus an **RCCB** is the core of shock protection at home.

Sizing the earth conductor

As a rule of thumb the earth (protective) conductor is sized in proportion to the phase conductor: for small domestic circuits it is commonly the **same size as the phase wire, and not less than 1.5–2.5 sq mm copper**. Larger supplies use the standard proportional rules.

The earth pit

A dedicated **earth pit** (earth electrode with earthing compound) provides a low-resistance connection to the ground. Keep the connection tight, protected from corrosion, and test the earth resistance periodically.

Indicative guidance for typical Indian domestic installations. Always confirm final cable sizes against the applicable IS standards, your local wiring rules and a licensed electrician for your specific installation.