KATHREIN

Antenna earthing/lightning protection

Because of the serious consequences if the work is not done properly, earthing and lightning protection work may be performed only by specially trained electricians!

Never perform grounding and lightning protection work if you are not a specialist with the appropriate skills!

The instructions printed here are not an invitation to non-specialists to perform earthing and lightning protection work on their own account; they are meant solely as additional information for the specialists whom you employ!

The antenna must be erected to DIN EN 60728-11 and earthed as specified. Only these antennas are exempt from the earthing requirement:

– more than 2 m below the edge of the roof
– and at the same time less than 1.5 m from buildings

For earthing, the mast must be connected by means of a suitable ground conductor to the lightning protection system of the building, using the shortest route. If no lightning protection system is available: to the building's earth conductor.
Connection to the lightning protection system may be made only by a qualified lightning protection system installation engineer.

a) Suitable as ground conductors are:

– a single solid wire with a cross-section of at least 16 mm² copper, at least 25 mm² aluminium or at least 50 mm² steel.

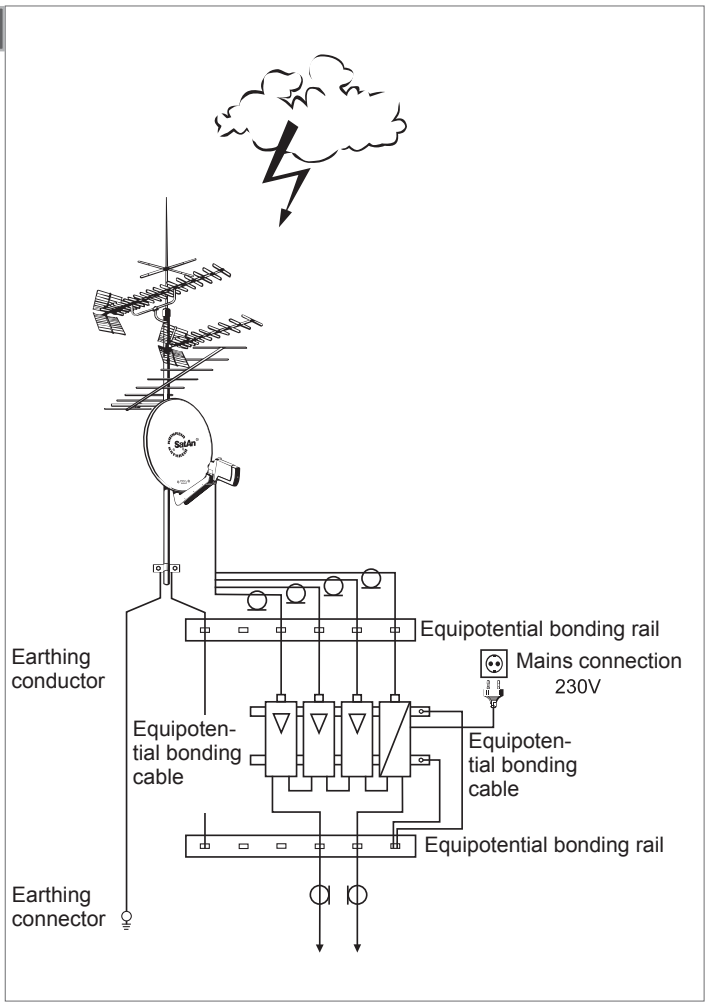
b) Unsuitable as ground conductors are:

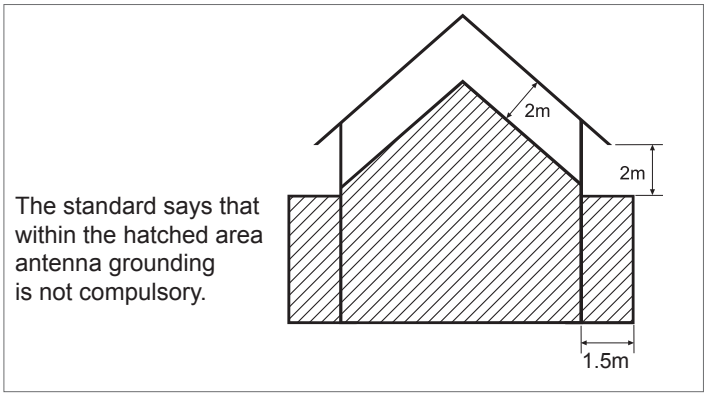
- the **outer conductor of the antenna cable**
- **metallic domestic installations** (such as the metal pipework of a water or heating system), since the permanence of the electrical connection cannot be guaranteed
- or **the shielding conductor** or **neutral conductor** of the mains power supply.

c) Routing of ground conductors

- Antenna cables and earthing conductors must **not** be routed through rooms used for storing **easily flammable substances** (such as hay or straw) or in which an explosive atmosphere can develop (such as gases, vapours).

- If the parabolic antenna is used in an integrated **antenna system** (e. g. a distribution system), the grounding measures must also be designed in such a way that grounding protection is still maintained if individual units are removed or replaced.





The standard says that within the hatched area antenna grounding is not compulsory.

Hazards may be caused not only by thunderstorms (lightning), but also by static charges and short circuits in the connected units.

For safety reasons therefore in general for all antenna systems an equipotential bonding conductor of 4 mm² copper should be provided.
The cable screens of all coaxial antenna downlink cables must be connected to the mast with an equipotential bonding conductor.