

DATAPARK ALVDAL

Earth electrode / lightning protection

Earth electrodes are established around and between the containers according to the sketch. The Earth electrode is made with 50 mm² Cu wire and are placed about 1.0 m outside the containers.

To achieve the lowest possible resistance to earth, as well as install a basis for a functional lightning system, mount the earth spear approved for lightning protection according to the sketch. The depth of the earth spear / steel tip with Cu wire must be adjusted on site. The deep earthing plant must be hit as far down as possible. The Cu wire must be laid with slacken bends.

From the earth electrode a yellow / green PN 50 mm² is applied parallel to the supply cables up to the earth rail / earth point inside the containers.

Earthing the container's steel chassis earth electrode is connected to 50 mm² Cu wire.

Coupling / splitting:

When connecting to the container's steel chassis, the joints / continuity of the structure must be checked. This makes all containers appear like a Faraday cage.

All connections / branches should be made with C-press tools that have a compressive force of 120kN / 12T. Alternatively, thermite welding can be used.

All connections for the earth electrode, equalization connections, etc. must be carried out with cable ties and locking discs on each side. Also important that external connections are corrosion proof.

Equipotentialing / main smoothing.

It is assumed that all exposed parts of the plant inside the container will be delivered to the main earth at the entrance. This must be checked with continuity measurements.

Control.

Earth electrode resistance to ground shall be measured.

The result of the measurement shall be communicated to the consulting engineer and documentary in the FDV documentation.

For measurements of resistance, the following must be observed:

Measuring probe shall be placed in the middle between the earth electrode and auxiliary electrode.

If for practical reasons it is impossible place the electrode 200 m from the earth electrode, the resistance characteristic of the electrode as a function of distance should be recorded.

According to the requirements / wishes of the Russian supplier of containers / computer equipment, the resistance to ground must be max 4 Ohm.

However, the requirement for resistance to earth electrode at lightning protection is max. 10 Ohm.

If measurements show higher resistance, it must be supplemented with more earthing spear. Additionally, it is also possible to improve the transition mode by using, for example, GEM electrode mass which sticks along parts of the Cu wire.