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Level 2

Design, Installation and Testing of Earthing in Signalling Power Systems

Module B Earth Mat Installation Process

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1 Purpose

This module sets out a typical process for the installation of earth mats for the purpose of achieving a safety earthing system. This shall be read in conjunction with the parent standard NR/L2/SIGELP/27148 and used with respect to the risk assessment derived for any specific installation or site.

2 Earth mat installation process

The following sequence may be followed for an earth mat installation.

EM1. Select preferred locations for the earth mat(s), taking into account the following:

- Consider the presence of any buried services, cables, toughing or external cable routes (as determined by the designer's risk assessment and site inspection or survey detailed in Section 5 of NR/L2/SIGELP/27418);
- When more than one earth mats (as shown in Figure 1) is to be installed, wherever possible, install an earth mat on either side of the apparatus housing and as close as possible to it, but such that the mats are separated by at least twice the longer side of the either of the adjacent earth mats;
- Due to the relatively shallow depth at which earth mats are installed, more than two mats might be needed to achieve the required resistance to earth. If so, the mats should be separated by at least twice the longer side of the either of the adjacent earth mats.

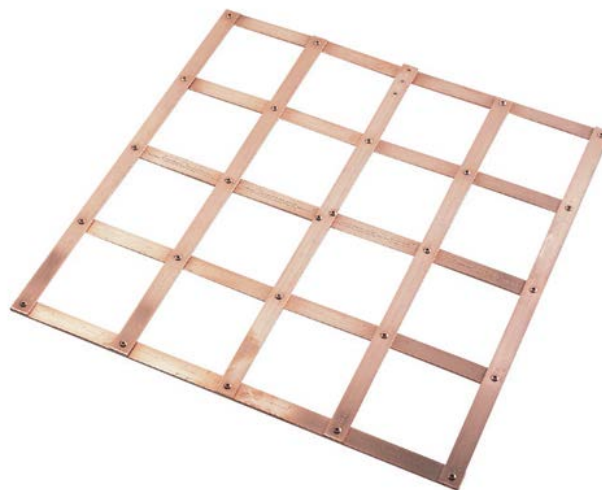


Figure 1 – Typical earth mat construction

EM2. The preferred depth for burial of earth mats should be 1 m. In exceptional circumstances, shallower burial (due to proximity of buried services that cannot be moved) or deeper burial (due to raised areas or sandy soil) may be permitted.