



Cesit Ingegneria S.P.A.
www.cesit.net

Safety and Environment

Electrical, Magnetic and Electromagnetic Fields

Electrical, magnetic and electromagnetic fields are everywhere: in every workplace, every residential building and every open space. This is because technological progress has added a substantial man-made contribution to the natural background level of electromagnetic fields already present on the earth. The growing use of new technologies in the field of radio telecommunications in public areas and in new industrial production processes has caused a continuous increase in the presence of sources of electrical, magnetic and electromagnetic fields (EMFs), triggering growing concern about the electromagnetic exposure of the population and workforce.

Current legislation requires employers to meet minimum health and safety obligations relating to the exposure of workers to risks deriving from physical agents and hence to conduct risk assessments with regard to electromagnetic fields.



The problem of electromagnetic pollution, more commonly known as “electrosmog”, is associated with non-ionising radiation with frequency ranging from 0 Hz to 300 GHz, emitted by radio telecommunications systems and systems for the generation, transmission, distribution and use of electricity.

On the basis of the principle of prudent avoidance suggested by the World Health Organisation (WHO), Italy has adopted the most stringent legislative measures in Europe.

Current legislation sets down the minimum health and safety requirements relating to the exposure of workers to risks deriving from electromagnetic fields and makes it mandatory for employers to assess the risks of such exposure. Where electromagnetic fields are found to exceed specified levels, the duty and cost of remedying the situation falls to the owner of the system or antenna responsible for the emissions.

Cesit Ingegneria S.P.A. provides companies with comprehensive support and conducts risk assessments relating to exposure to electromagnetic fields.

Risk assessment involves systematically examining all aspects of a company's work, starting with the identification of probable causes of harm or injury, with a view to eliminating the associated risk or reducing it to an acceptable level. In risk assessments relating to electromagnetic fields, it is imperative to determine the most frequent causes of exposure, the hazards, the job categories most exposed to risk, the methods of measuring the waves emitted, and the steps to be taken to minimise the exposure of personnel.

Pre-Compliance Inspection

- Analysis of the work environment: pre-assessment of hazards to determine whether it is advisable to take measurements and/or make calculations of field values.
- Identification of the nature of the fields: low or high frequency, electrical fields, magnetic fields, static fields, etc.

Investigation

- Identification of hazards.
- Measurement of electromagnetic, electrical and magnetic fields.
- Time-domain and frequency-domain spectrum analysis.
- Application of personal dose meters for workers and identification of the workers exposed to risk.

Technical Reporting

- Adoption of technical measures to eliminate or reduce exposure to EMFs where readings exceed specified levels of concern.
- Posting of signs to mark high-intensity zones.

Briefing and Training of Personnel

- Training courses.

With its long experience of conducting risk assessments relating to electromagnetic fields in work environments, and its stock of measuring instruments and dedicated software, Cesit Ingegneria S.P.A. is capable of operating on a nationwide basis without recourse to subcontractors, thus ensuring adherence to time schedules and commensurate costs.

All instrumentation used by Cesit Ingegneria S.P.A. for monitoring and measuring complies with the legislation and technical standards currently in force.