

## IS EN 62305:2011

Faraday Cage lightning protection systems are the most widely used worldwide and IS EN 62305 is the international standard to which they must be designed, maintained, and installed.

The latest version of the standard is IS EN 62305:2011. LPI Group ensures that all Faraday Cage projects we undertake meet the rigorous criteria of this standard.

Previously, [lightning protection systems](#) were governed by IS 6651: 1999. This standard was replaced by the current one following an intensive consultation process involving hundreds of leading lightning protection experts from 28 countries. The new standard is four times the size of the previous one. It is therefore vital to ensure you employ experts such as LPI Group in order to be confident that all work will be carried out to the levels required.

The new standard is divided into four parts, detailing requirements for [lightning protection systems](#) for the structure both externally and internally:

### IS EN 62305-1 Part 1: General Principles

This is an introduction to the other parts of the standard.

### IS EN 62305-2 Part 2: Risk Management

IS EN62305-2 is the most important part of the standard. The results of the analysis here will dictate which level of lightning protection system is required. It is therefore vital to provide as much information as possible to enable us to carry out the risk assessment correctly.

### There are four types of loss to be considered in IS EN 62305:

R1 - Loss of Human Life

R2 - Loss of Services to the Public

R3 - Loss of Cultural Heritage

R4 - Loss of Economic Value

Once the type of loss has been identified, further information about the structure will be needed for us to carry out an accurate risk assessment. Examples of information needed include:

- Use of structure
- Dimensions of structure
- Location of structure
- Number of service lines entering the structure
- Length of service lines

- Transformer type
- Soil resistivity

If any of the information is unknown, this will result in a default value being input into the risk assessment programme and may in fact result in a higher level of protection than that is actually required.

Using the latest risk assessment software, LPI Group will then carry out a series of calculations to determine the exact levels of protection required.

### IS EN 62305-3 Part 3: Physical Damage to Structures and Life Hazards

Part 3 of the Standard relates to the design and installation of the lightning protection system. Once the protection level has been calculated from the risk assessment, the basis of the design will be taken from information taken from the table below.

Class of LPS	Mesh Size (m)	Down Conductor Spacing (m)
I	5×5	10
II	10×10	10
III	15×15	15
IV	20×20	20

There are two main types of earthing arrangements in IS EN 62305:

Type A – Vertical earth electrodes, solid copper plates or lattice mats.

Type B – Ring earth electrode around the perimeter of the building.

## BSEN62305-4 Part 4: Electrical and Electronic Systems within Structures

Part 4 takes into account the electronic and electrical devices inside the structure. The previous Standard only recommended the use of surge protection devices, but IS EN 62305 makes it compulsory for them to be fitted as an integral part of the lightning protection system. The type and location of the surge protection devices to be fitted are determined from the results of the risk assessment.

## Conclusion

IS EN 62305:2011 is a complex standard which requires specialist expertise and experience in order to comply with it.

**LPI Group** has that necessary expertise and experience, thanks to intensive training of all our staff with ATLAS (Association of Technical Lightning and Access Specialist) and ongoing further education and seminars too.

