



## Arc Flash Studies

An arc flash is a flash that occurs through the air between electrically live parts. The arc released during such electrical faults carries a huge amount of energy causing the copper and steel in the equipment to melt or evaporate. The increase in volume of the superheated material creates an arc with explosive characteristics. With expert knowledge of the subject, we can work out solutions to protect workers against arc flash hazards.

### Your tailor-made solution

However, merely having a safe installation is not enough to preclude the possibility of arc flashes. The solution lies in using working methods combined with personal protective equipment that are appropriate to the energy level found. Vinçotte creates a safer working environment based on an arc flash study. Such a study will accurately survey the energy released at high-voltage and low-voltage panels.

This will enable us to prepare a better risk analysis (calculation) of your electrical installation or electrical work, and to suggest appropriate preventive measures in the form of personal protection media in order to minimise the risks.

### Your result

The advantages of an arc flash - study are:

- Tripping times and tripping currents of electrical safety devices will be checked and reduced wherever necessary, with a view to reducing energy levels.
- The properties of existing electrical systems will be checked and an assessment will be made of whether that material is due for replacement and/or whether other measures should be taken to protect workers from arc flashes by using additional personal protection media.
- The category of PPE (Personal Protective Equipment) that should be used in an electric work situation and/or the safe distances to be maintained from the source of the arc flash hazard, will be indicated.
- Employees will be provided with more specific, targeted information. A sticker containing all the important parameters (safe working distances, PPE to be used at specific locations, etc.) may be provided on each panel. This will facilitate the drafting of operating procedures.
- Identification of the electrical energy will help identify and localise the hazardous locations.

### Please note

It is not explicitly mandatory in Europe to conduct arc flash studies.

On the other hand, Belgium does have the Welfare at Work Code which makes it mandatory for employers to analyse business risks in line with the general principles of safety and prevention.

General Regulations for Electrical Installations (Article 266) - Work on electrical systems.

Royal Decree of 4th December, 2012 - Minimum safety requirements for electrical installations in workplaces.

### Regulations

Synergrid C2 / 112: Technical requirements for connection to the HV distribution network.

### Norms and Standards

IEEE Std 1584: Guide for Performing Arc Flash Hazard Calculations.

NFPA 70E: Standard for Electrical Safety in the Workplace

NBN EN 50110-1: Operation of electrical installations.

### In which situation?

Arc flash studies can provide added value to all non-domestic installations receiving power from a high voltage cabin.