



DEHN

**Safe when it matters most.**

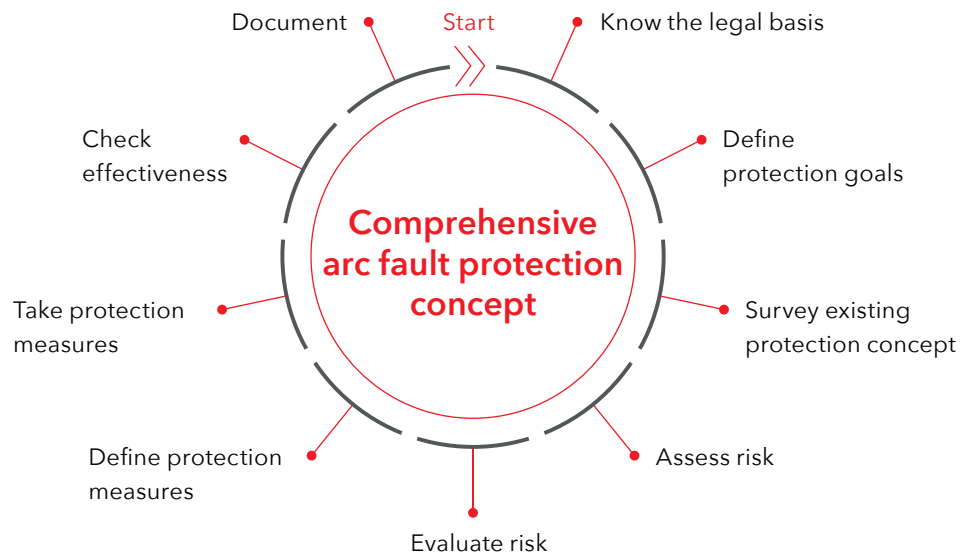
Protect people and systems  
against arc faults

# Assess risk

# Minimise risk

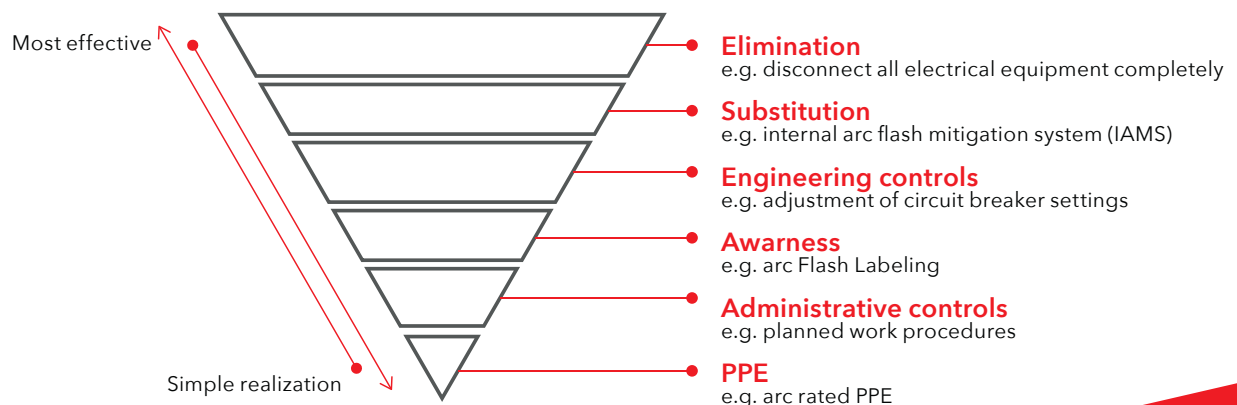
A risk assessment helps you identify the risk of arc faults at an early stage. It can be used to derive suitable measures to prevent arc faults and reduce the impact of the arc energy.

The process for optimising your arc fault protection concept could look like this:



## Follow the Hierachy of Risk Controls

As a general rule, hazards are always eliminated at their source. If this does not suffice, further preventive measures can be taken as per the hierachrchy of risk control in accordance with NFPA 70 E.



Which method do you  
use for risk assessment?

# Bring stakeholders together

## Address the topic of arc fault protection

Define common protection goals for your electrical systems. Make use of the expertise of your staff to do this and involve planners and service providers at an early stage in addition to the plant manager and the safety officer.

This helps you to incorporate all the relevant aspects in your arc fault protection concept.



# Consider influencing factors

## Assess risk

### Influencing factors for determining the risk

#### Risk

Three basic factors influence the arc fault risk: The energy to be expected in the system, the protection level of the PPE and the probability of an arc fault. These variables can be influenced with the help of protection measures.



Incident energy  $E_{arc}$

Electrical energy released like an explosion during an arc fault in the workplace.



PPE protection level  $E_{port}$

Arc energy level up to which the PPE provides protection against the thermal effects of an arc fault – depending on the work environment



likelihood of injury

Probability of injury to the person due to an arc fault - depending on assessment criteria.



Which protection measures do you take to reduce the risk of an arc fault?

# Recognise arc fault hazards

## Avoid consequential damage

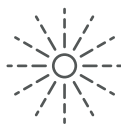
An arc fault is not a rare phenomenon, it is a hazard which must be taken seriously. An electrical gas discharge of this kind can occur due to a technical defect, human error, impurities or foreign bodies in the system. By providing adequate protection, you avoid not only the direct but also more far-reaching consequences.

### Possible effects of an arc fault



#### Thermal effect

Temperature of over 10,000 °C



#### Radiation effect

Bright flash of light



#### Dynamic effect

Pressure wave with a loud bang



#### Toxic effect

Poisonous gases and metal vapours

### What comprehensive arc fault protection achieves

- Protects people
- Secures system availability
- Provides legal certainty
- Optimises fire protection
- Prevents loss of image



What are the most important protection goals in your company?



## All-round. Safe. Protected.

**Comprehensive protection against arc faults for systems and employees.**

Comprehensive arc fault protection is the sum of all measures to prevent arc faults and reduce the effects of arc energy to protect people and equipment and improve plant availability.

Got any questions about the protection against arc faults?  
Send us an email - we will be pleased to help you.

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