



DEHN + SÖHNE

DEHN Safety Equipment – Success needs Safety



No Accident happens out of the Blue!

Safety begins in mind.

Electricity is great. Our modern industrial and communication society with all its possibilities would be completely unimaginable without it. However, nothing has only advantages, there are also disadvantages. The human being is a user of electrical energy, but, unfortunately, does not have any sense organs to perceive it and did not form any natural reflexes to protect itself against the possible hazards of electrical energy. By forming and using its knowledge, adapting its behaviour and by using the right equipment, it must compensate for this evolutionary deficit.

Standards

EN 50110-1	Operation of electrical installations
HD 637 S1	Power installations exceeding 1 kV
IEC 61230	Live working - Portable equipment for earthing or earthing and short-circuiting
IEC 61243-1	Live working - Voltage detectors - Part 1 Capacitive type to be used for voltages exceeding 1 kV a.c.
IEC 61243-5	Live working - Voltage detectors - Part 5 Voltage Detecting Systems
IEC 60832	Insulating poles (insulating sticks) and universal tool attachments (fittings) for live working
IEC 60895	Conductive clothing for live working at a nominal voltage up to 800 kV a.c.
IEC 60903	Specification for gloves and mitts of insulating material for live working
IEC 60984	Sleeves of insulating material for live working

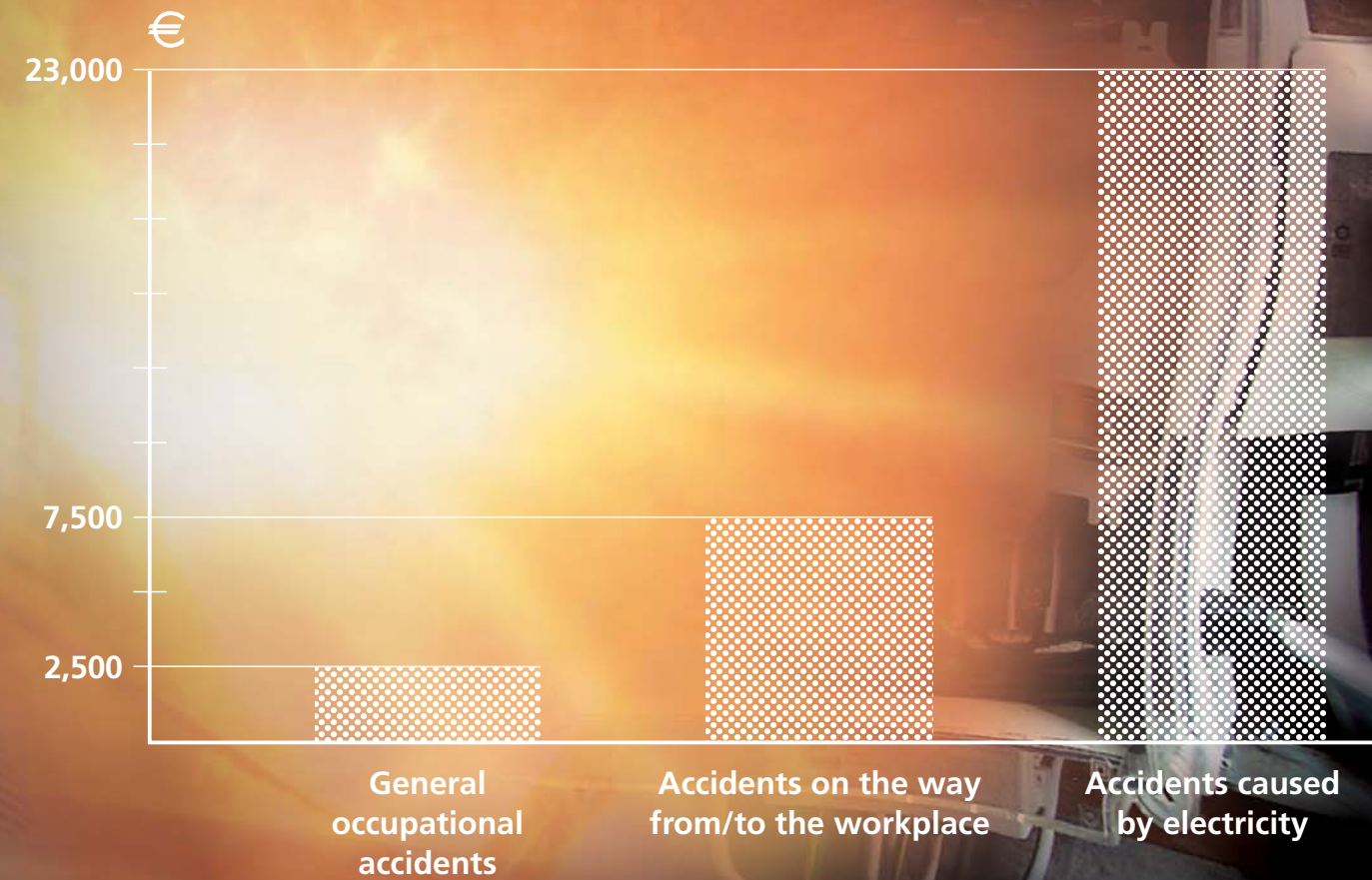
Occupational safety is a social concern.

Amongst others, international and national health and safety regulations, national legislation and generally approved technical rules have great influence on occupational safety.

Providing occupational safety is the management's task.

Every employer bears the total responsibility for safety and health protection within the company. This, however, cannot be delegated as a whole. The entrepreneur can only involve the executives in this responsibility. Apart from the professional responsibility, every manager must thus bear the responsibility for the safety of his employees.

Average Expenses for Payments of Compensation per Accident*



* Ref.: Hans-Heinrich Egyptien: Check für mehr Arbeitssicherheit, Chancen in der Elektrobranche 1999, Verlag Technik Berlin 1999

There is no second chance for carelessness.

Carelessness, excessive demand and lack of concentration are the causes of many accidents that could have been avoided. Consequences are personnel accidents, operational downtimes, destroyed equipment and environmental damage. The expenses and also image losses for a company can often not be compensated for. Accidents with electricity cause considerably higher costs than other operational accidents. For avoiding accidents, it is mandatory to observe laws and safety regulations. Working at electrical systems and equipment should only be carried out by qualified electricians or by persons under qualified supervision.

DEHN + SÖHNE have a vast experience in the field of operational safety and want to help you to make your company fit for the future operational safety requirements.



Safety can be achieved

Dead Working.

No matter what kind of work to be carried out, operational safety is always ensured, if the potential hazard is eliminated or reduced for the person involved. Since the beginning of using electrical energy, the relevant parts of the system have therefore been disconnected from the power supply when work had to be carried out on electrical systems and equipment.

For disconnecting a system and finally giving permission to work, reliable information is needed regarding the state of the installation, measures to be taken for avoiding maloperations or malfunctions as well as information about protection against upcome maloperations or malfunctions and protection against potential hazards from adjacent parts of the installation. In order to avoid the above harzards, the 5 common safety rules have been formulated:

- Disconnect completely
- Secure against re-connection
- Verify that the installation is dead
- Carry out earthing and short-circuiting
- Provide protection against adjacent live parts

Every electrician is familiar with these rules as a life insurance. But what about the safety and reliability of the devices and equipment providing this vital information? Information is only as safe as the technologies used for obtaining it.

Do not leave vital information to chance.

Independent from its operating state, every electrical system and equipment must principally be regarded as energised until it is proved to be dead.

Therefore, the voltage detectors used must provide reliability and perceptibility of indication and the necessary electrical safety for the user. This applies to both the test procedure and the test result. Both must be reliable.

Test equipment produced decades ago is hardly capable of fulfilling the safety requirements of today. Additionally, the switchgears of today require only an eighth of the space needed for switchgears produced 30 years ago. Thus, the safety requirements for test equipment must be upgraded.

More compact system constructions require shorter distances between the live parts within those systems. Furthermore, these setups increase the variety of interferences on the test equipment used. Therefore, the demand for the utilisation of operational equipment in accordance with the generally approved technical rules, is not made without reason. Devices for operating, testing and safeguarding live parts with nominal voltages exceeding 1,000 V must therefore always correspond to the current requirements of IEC standards.

For the safety of your colleagues and employees and for your own safety, **DEHN + SÖHNE** offers you the right equipment.

Even if all necessary precautions are taken – More safety is required.

If there is still a failure and in order to avoid any subsequential damage, the electrical systems worked on must be earthed and short-circuited. However, this measure is also only as good as the equipment used for these purposes.

Ravages of time leave their marks here as well. Corrosion can reduce the effective cross section of earthing and short-circuiting cables and thus question safety.

This is not the case with earthing and short-circuiting devices tested in accordance with the current requirements of IEC 61230. Here, **DEHN + SÖHNE** is your reliable partner.

OLD NEW

>hazardous<

>safe<



Perceive your Risk and you can eliminate it.

Live Working

Nowadays, with international competition, permanent availability of electrical energy has become an important factor. At the same time, the increasing competition on the power supply market prompts the facilities to reduce more and more their provisions of excess capacities of power supply. Firstly, this requires an increased operational safety of existing systems. Secondly, some parts of the system cannot be disconnected completely during the required maintenance and repair procedures.

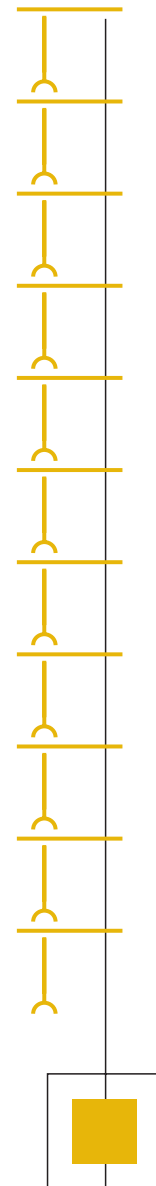
For these purposes, live working is a good solution. Basically, the following methods can be applied:

- Hot Stick Working – Safe Clearance Working
- Insulating Glove Working – Rubber Glove Working
- Bare Hand Working

Because of the high skill requirements of live working, this kind of work may only be done by qualified electricians or professionally instructed persons. The advantages of this working method are obvious:

- Increased reliability of power supply
- Uninterrupted power supply for the customer. Better rating of your industrial customers.
- Cost reduction
- No more switching operations
- No more coordination work for customer and supplier
- Independent timing for carrying out the work

European standards provide a safety-related equalisation of dead working and live working. With the brand DELTEC®, DEHN + SÖHNE offers a wide range of devices and equipment for this working method.



TRS MS Dry Cleaning Set



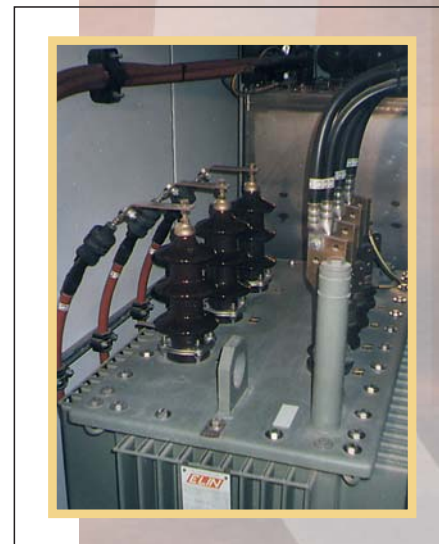
FRS ZK MS Damp Cleaning Set



TRS NS Dry Cleaning Set



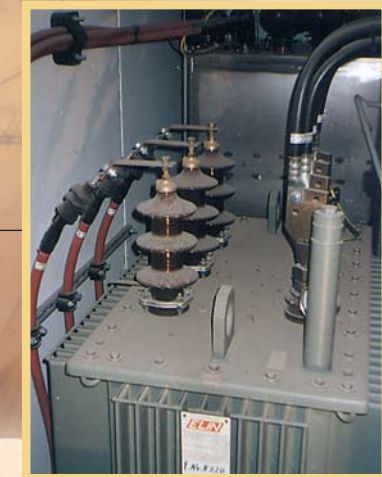
TFRS MS Combined Cleaning Set



After Cleaning



Before Cleaning



Cleaning





Safety is provided if the person involved knows the risk of dealing with electricity, observes the corresponding safety regulations and guidelines, and uses proper equipment.

A high quality standard of this safety equipment and devices must be provided, as safety is always a matter of confidence as well. DEHN + SÖHNE is certified in accordance with ISO 9001 so that you can rely on the quality of our products.

Because of our quality-related thinking, closeness to our customers and a diversified service programme, DEHN + SÖHNE is your reliable partner for safety equipment.

More Information

I would like to have more information about the following topics:

- Safety Equipment - Main Catalogue
- List of all DEHN Publications

Name

Company

Address

Country

Phone/Fax No.

eMail

Please fill in and send to us!

DEHN + SÖHNE helps you to eliminate risks as follows:

- We offer you a consulting service advising on the specialties of the working methods and the selection of suitable safety equipment and devices.
- We offer you seminars about operational safety in electrical systems

We offer you the following services:

- Maintenance tests for voltage detectors over 1 kV
- Tests of existing earthing and short-circuiting devices for fulfilling their device standards
- Measuring and dimensioning of insulating shutters
- Adjustment and installation of insulating shutters

**Lightning Protection
Surge Protection
Safety Equipment**

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