

**115-401**

## DGUV Rule 115-401



**Office businesses sector**

**komm**mit**mensch** is the national campaign of the German Social Accident Insurance (DGUV). Its purpose is to support companies in developing a culture of prevention in which all action is underpinned by safety and health. Further information at [www.kommmitmensch.de](http://www.kommmitmensch.de)

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# Office businesses sector

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# 1 What is the purpose of this rule?

## **What is a DGUV Rule?**

This DGUV Rule supports you by describing occupational safety and health measures tailored to your sector. For this reason, it is also termed a "sectoral rule". DGUV Rules are drawn up by experts at the German Social Accident Insurance and further OSH experts. These experts are familiar with the day-to-day conditions in companies within your sector, and know where hazards exist to the safety and health of these companies' employees.

DGUV Rules assist you in applying German state OSH regulations, DGUV accident prevention regulations, standards and numerous statutory requirements in practice. They also contain a wealth of practical tips and information on implementing occupational safety and health effectively in your company. As an employer, you are at liberty to select alternative solutions; they must however assure at least the same level of safety.

## **For whom is this DGUV Rule intended?**

This DGUV Rule addresses you in the first instance in your capacity as an employer, since you bear responsibility for the safety and health of your employees. Owing to its high practical relevance however, the DGUV Rule is also very useful to all other parties involved in your company in occupational safety and health, such as your staff/works council, OSH professionals, company physicians and safety delegates.

This DGUV Rule provides specific assistance with occupational safety and health measures relating to tasks in companies involving offices and VDU work. It covers the most important prevention measures by which the statutory safety objectives can be met in your company and for your workforce.

The Confederation of German Employers' Associations (BDA), the German United Services Trade Union (ver.di) and the Interior Business Association (IBA) were instrumental in the production of DGUV Rule 115-401, Office businesses sector.

# 2 Principles of occupational safety and health

## 2.1 Principles applicable to all sectors

Whether by the provision of supervision through OSH professionals and company physicians, the delivery of instruction and performance of risk assessments, or the assurance of first aid: any employer taking the safety and health of his or her employees into account – systematically, in all processes, and with the employees' participation – creates a sound basis for well organized occupational safety and health.



### Statutory references

- German occupational health and safety act (ArbSchG)
- German occupational safety act (ASiG)
- German Ordinance on Workplaces (ArbStättV)
- German ordinance on industrial safety and health (BetrSichV)
- German ordinance on hazardous substances (GefStoffV)
- German ordinance on the use of personal protective equipment (PSA-BV)
- German Ordinance on Occupational Health Care (ArbMedVV)
- DGUV Regulation 1, Principles of Prevention
- DGUV Regulation 2, Occupational physicians and OSH professionals
- TRBS 1201, Testing of work equipment and equipment requiring supervision
- TRBS 1203 technical rules governing competent persons
- ASR V3 a.2 technical rules for workplaces
- governing barrier-free design of workplaces
- ASR A1.3 governing safety and health signage
- ASR A2.2 governing fire prevention measures
- ASR A2.3 governing escape routes and emergency exits, escape and rescue plans
- ASR A4.3 governing first-aid areas, equipment and facilities

As an employer in Germany, you bear responsibility under the occupational health and safety act for the safety and health of your company's employees. There are numerous other good reasons however for devoting attention to occupational safety and health in your business. Employees who work in a safe and healthy environment are for example not only less frequently ill, but also work with greater commitment and motivation. Investments in occupational safety and health have also been shown to yield a financial return for companies.

The German Social Accident Insurance supports you in implementing occupational safety and health in your company. The first step is to implement basic prevention measures. These are described on the following pages. They constitute a sound foundation for well-organized occupational safety and health and set the course for further important prevention measures in your company.



### Responsibility and assignment of tasks

Responsibility for your employees' safety and health lies with you, the employer. You must therefore organize work in your company in such a way that hazards to life and health are avoided wherever possible and the stress upon your employees does not exceed the limits of their personal performance.

You may assign this task in writing to other reliable and skilled persons within your company; you are however obliged to check regularly that these persons are performing their duties satisfactorily. If necessary, set out measures for improvement. Following an occupational accident or the incidence of an occupational disease, in particular, the causes must be determined and the occupational safety and health measures adapted.



### Further information

- DGUV Informative publication 204-022 governing first aid in companies
- DGUV Informative publication 205-023 governing fire safety assistants
- DGUV Informative publication 250-010 governing aptitude tests in plant practice

### **Supervision by occupational physicians and OSH professionals**

You are supported in the creation of safe and healthy workplaces by the OSH professionals and occupational physicians, and by your accident insurance institution. DGUV Regulation 2 sets out the scope of supervision by OSH professionals and occupational physicians that you are required to implement.

### **Safety delegates**

Should your company employ over 20 people, you must also appoint safety delegates. Safety delegates are employees of your company who support you in improving occupational safety and health in your company. They volunteer for this task and complete it parallel to their main functions within the company. Their function involves, for example, ensuring that safeguards and protective equipment are in place, and drawing their colleagues' attention to behaviour that is dangerous or presents a health risk. In the process, they provide you with reliable information on how you can improve occupational safety and health.

### **Skills in occupational safety and health**

For occupational safety and health measures to be effective, sound knowledge is required. Ensure therefore that all persons in your company who are entrusted with OSH tasks are adequately skilled. Provide these individuals with the opportunity to attend initial and further training measures. The German Social Accident Insurance Institutions and their umbrella association, the DGUV, provide a wide range of suitable seminars and initial and further training courses.

### **Assessment and documentation of work conditions (risk assessment)**

In order for people to be protected against hazards to safety and health at the workplace, the hazards actually arising must be identified. One of the most important tasks of occupational safety is therefore assessment of the working conditions, or "risk assessment". The purpose of a risk assessment is to determine possible hazards to the safety and health of your employees at each workplace within your company, and to set out measures for eliminating these hazards. At the same time, assess

both the physical and mental stresses upon your employees. Observe statutory constraints and prohibitions upon employment, such as those applicable to young people and pregnant and nursing women, particularly with regard to heavy physical work and work involving hazardous substances. Hazards must in the first instance be eliminated or reduced at source. Where this is not (entirely) possible, you must take protective measures in accordance with the T-O-P principle. This means that you must first determine and implement technical (T), then organizational (O), and only then personal (P) measures. By documenting the risk assessment you have performed, you not only meet your statutory obligation to do so, but also create an overview of occupational safety and health measures taken in your company. This enables developments to be understood and the efficacy of measures to be demonstrated.

### **Occupational medical measures**

Occupational medical prevention activity is an indispensable component of occupational safety and health within your company. It includes involving the occupational physician in the risk assessment, general consulting on occupational medicine, and the conducting of preventive occupational medical care including the provision of occupational medical advice to employees on a one-to-one basis. Should preventive medical care reveal a need for specific measures to be taken in the interests of occupational safety and health, you must initiate these measures for the employees concerned.

### **Instruction**

Your employees are able to work safely and without risk to their health only when they are familiar with the hazards at their workplaces, their duties with regard to occupational safety and health, the measures to be taken and the company rules. These rules include company procedures. It is therefore important that your employees receive instruction, ideally directly at their workplaces. You may provide instruction yourself, or assign the task to a reliable and skilled person. Should you employ personnel from temporary employment agencies, you must provide them with the same instruction you provide to your own staff. The occupational physician and/or OSH professional can support you in this task. Instruction must be provided at least once a year, and must be documented. Young people must receive instruction at

intervals of six months. You must also ensure that your employees receive instruction:

- Before beginning a task
- When they are assigned to a different task
- In the event of changes in their area of activity and changes in the working processes.

### Access to rules and regulations

Make all relevant state rules and regulations and DGUV accident prevention regulations available at a suitable location to all persons in your company. By doing so, you not only ensure that your employees are informed of the necessary prevention measures, but also demonstrate that you take occupational safety and health seriously. Your accident insurance institution is available to answer any questions you may have concerning the rules and regulations.

### Fire safety and emergency measures

You and your employees must be able to act quickly and purposefully in the event of an emergency. Organization of company fire safety and preparation for other emergency measures, such as orderly evacuation of your workplace, therefore also form part of the safety and health of workers at work. For this reason, train as many employees as possible as fire safety assistants. A recommended figure is at least five percent of your workforce. Appointment of an employee as a fire safety officer is also advisable. This pays off in the event of an emergency. In order for fires to be fought effectively when they arise, you must install suitable fire extinguishing equipment on your premises such as portable fire extinguishers, and familiarize all employees with its use by providing regular instruction.

### First aid

Organization of first aid in your company is one of your basic duties. "First aid" covers all measures required in the event of accidents, acute illnesses, poisoning and other emergencies before the arrival of the emergency services or a doctor. Examples of these measures are: safeguarding the accident location, taking accident victims out of acute danger, alerting emergency services, taking immediate lifesaving measures, and providing support for affected individuals. The basic requirement for first-aid materials is covered by the "small" and "large" first-aid boxes to DIN 13157 and DIN 13169 respectively.

Hazards specific to the company may necessitate supplementary materials.

Your company must have a sufficient number of first-aiders. The required number depends upon the number of employees in your company. Any employee may assume this task. A requirement is successful completion of further training in first-aid and regular refresher courses every two years. The course fees are paid by the German Social Accident Insurance Institutions. You must also ensure that sufficient first-aiders are also present during shifts and holiday periods.



### How many first-aiders?

When between 2 and 20 insured individuals are present	One first-aiders
When over 20 insured individuals are present	
a) In administration and trade businesses	5 %
b) In other businesses	10 %
c) In children's day-care facilities	One first-aiders per children's group
d) In institutes of higher education	10 % of the insured individuals in accordance with Section 2 (1) No 1 of the German Social Code, Volume VII



### Regular checks of work equipment

Damaged work equipment may cause accidents. The work equipment used in your company must therefore be inspected regularly, and depending upon the type, also tested. Before an item of work equipment is used, it must be inspected visually and checked, if necessary by a function check, for evident faults that can be determined swiftly in this way. Besides these checks, you must ensure that regular tests are performed at appropriate intervals. How these checks and tests are to be performed, by whom and at what intervals is described in the TRBS 1201 and TRBS 1203 technical rules (refer to the information box, "Statutory references"). In a company working only a single shift, a test interval of one year has proved effective for many items of work equipment. The results of the tests must be retained at least until the following test.





### Planning and procurement

Considering the topic of safety and health in all company processes from the outset is a strategy that pays off. Giving consideration to your employees' safety and health even as you are planning workplaces and installations and when procuring work equipment and materials saves you from having to make improvements, which may be expensive, at a later stage.



### Accessibility

Design your company's work rooms such that they are accessible to disabled persons. Accessibility benefits not only your employees with disabilities, but the entire workforce. Adequately wide walking areas, sanitary fittings, light switches and handles that are within easy reach, and non-slip floor coverings for example can reduce the risk of accidents and considerably reduce stress and strain.



### Workplace health

Health is the most important precondition for your employees to remain fit for and capable of work through to the statutory retirement age. Measures taken at an early stage to reduce work-related physical and mental stresses have a double dividend – for the employees themselves, and for the company. These measures include the design of safe and healthy workplaces, and corporate integration management. The enhancing of health-conscious behaviour among your employees and the creation of working conditions conducive to good health also have a positive impact. Consider that your employees themselves often know best what affects them adversely at work. For this reason, involve them when considering measures for improvement. This also motivates them.



### External companies, suppliers, and assignment of your employees to work at the sites of other companies

Do personnel from external companies and suppliers access your company premises? This could also be a source of hazard. Make the necessary arrangements and ensure that these persons are also familiar with and observe your company's workplace safety measures.

Should you or your employees work at the premises of other companies, the same applies in reverse: agree aspects of occupational safety and health with the companies on whose sites your employees are working.



### Integration of employees with temporary work contracts

The OSH requirements in your company apply to all employees, including those working there only temporarily, such as temping and work experience personnel. Ensure that these persons are also covered by your workplace safety and health measures.



### General information

- Database of regulations, rules, and informative publications of the German Social Accident Insurance:
  - ▶ [www.dguv.de/publikationen](http://www.dguv.de/publikationen)
- DGUV Prevention Competence Network:
  - ▶ [www.dguv.de](http://www.dguv.de) (Webcode: d36139)
- Biological and hazardous substances database of the German Social Accident Insurance (GESTIS):
  - ▶ [www.dguv.de](http://www.dguv.de) (Webcode: d3380)
- German occupational health and safety act and ordinances:
  - ▶ [www.gesetze-im-internet.de](http://www.gesetze-im-internet.de)
- Technical rules pursuant to the occupational health and safety ordinances:
  - ▶ [www.baua.de](http://www.baua.de)

## 2.2 Principles applicable to the office businesses sector



### Statutory references

#### Rights to co-determination

- German works council constitution act (BetrVG)
- German federal personnel representation act (BPersVG)
- Personnel representation acts of the German regional governments
- Section 176 of the German Social Code, Volume 9 (SGB IX), reintegration and participation of persons with disabilities

#### Cleaning and hygiene

- Section 4 of the German occupational health and safety act (ArbSchG)
- Sections 4 to 8 and 14 of the German ordinance on hazardous substances (GefStoffV)
- Section 2 of DGUV Regulation 1, Principles of Prevention

#### Preventive occupational medical care

- Section 6 of the German working hours act (ArbZG)
- Section 3 of the Ordinance on Occupational Health Care (ArbMedVV) in conjunction with the annex governing mandatory and on-request preventive occupational medical care, Part 4 (2)
- Notification of recommendations of occupational medical rules (AMRs) No 2.1, intervals for the instigation/offer of preventive occupational medical care
- Notification of recommendations of occupational medical rules (AMRs) No 5.1, requirements governing the offer of preventive occupational medical care
- Notification of recommendations of occupational medical rules (AMRs) No 14.1, appropriate examination of the eyes and vision

#### Breaks from VDU work

- Section 3 of the German Ordinance on Workplaces (ArbStättV) in conjunction with the Annex, Requirements and measures for workplaces in accordance with Section 3 (1) No 6.1

#### Accessible work equipment

- Section 4 of the German disability discrimination and general equal treatment act (BGG)
- Section 4 of the German accessible information technology ordinance (BITV 2.0)

### Employee representative body

Should your company have a works or staff council, you are obliged to involve it in many issues relating to occupational safety and health. The general tasks of the works or staff council include monitoring observance of the regulations in force for the protection of employees, and also the promotion of occupational safety and health measures. All occupational safety and health measures are covered by the rights of participation and co-determination.

It may be constructive for the works or staff council, employee representatives and/or the severely disabled employees' representative to be informed of and involved in many occupational safety and health issues at an early stage.

### Cleaning

Regular cleaning work is doubtless a given in your company. Are you aware that cleaning agents may also contain hazardous substances? Cleaning agents frequently contain solvents, acids or alkalis. Ensure therefore that wherever possible, cleaning agents are used that do not contain hazardous substances. Should you outsource cleaning work, agree this requirement with the service provider.

Important information on the ingredients of cleaning agents and the hazards that they may present can be found in the safety data sheets of the products concerned. The products' manufacturers are required to make these safety data sheets available. The safety data sheets contain information on use of the cleaning agents and contact with them, and on measures to be taken to prevent hazards. They serve as an important resource for the generation of plant procedures and the provision of instruction to employees.

**Note:** Many safety data sheets and further resources (including for cleaning agents) are available in the Wingis online database.

► [www.wingis-online.de](http://www.wingis-online.de)



Ensure that cleaning agents are not stored together with foods (for example the descaler on the shelf next to the sugar and coffee in the break room). Cleaning agents must be stored such that only the persons tasked with cleaning work have access to them. They must be stored in closed containers. If at all possible, the original containers or original packaging should be used. Containers must not be used that could be confused with those for other substances or products owing to their shape or marking.

Have the electrical equipment used for cleaning work (e.g. vacuum cleaners) checked regularly to ensure its safe condition and electrical safety.

### Cleaning of work equipment, hygiene

All work equipment should be cleaned regularly. Observe the manufacturer's cleaning instructions and ensure that the cleaning agents used are not harmful to the skin.

The sharing of keyboards, mice or headsets by several persons may cause pathogens to be transmitted between them.

Wherever possible, provide individual employees with work equipment for their use alone. If workstations are used by several persons, the workstation must enable a different keyboard, mouse and headset to be substituted quickly. Alternatively, ensure that the work equipment is cleaned more frequently, ideally at the beginning or end of the working shift.

### Preventive occupational medical care

Office workers typically work at VDU workstations. You must offer these employees optional preventive occupational medical care at regular intervals. This care always includes a consultation with a physician and, if desired by the employee, an eye test.

You must also enable your employees to request preventive medical consultations in the event that they suspect a connection between health complaints and their work. You must comply with such requests, unless evaluation of the working conditions and the protective measures in place enable the risk of harm to health to be ruled out.

The results of the occupational medical consultations are made available only to the employee. The employee in turn decides whether this information is made available to other parties.

### Breaks – interruption of VDU work

In order for office work to be productive and healthy, tasks at a VDU station should ideally be organized such that they are regularly punctuated by other tasks or by rest breaks. The requirement for VDU work to be interrupted regularly by discrete tasks that do not need to be performed at the screen is met by the concept of mixed work. In this concept, different tasks with different requirements are combined, as a result of which imbalanced stresses are avoided. This particularly concerns stresses upon the locomotor apparatus, the eyes and the mind.

During office work, attention should be paid to varying the body posture.

Should alternation between discrete tasks associated with different stresses not be possible, the employees should be able to punctuate their daily work at the VDU station with regular, brief breaks.

Several shorter rest breaks are more conducive to recuperation than fewer, longer rest breaks of the same total duration. Merging of the rest breaks or saving them up in order to shorten the working day negates the recuperative effect and must therefore be avoided. It is advantageous for exercise to be performed within the rest periods.


Rest periods of at least 5 minutes per hour have proved effective in practice.

## Accessible work equipment

Facilities, products and software must be accessible if they are also to be used independently by persons with disabilities. "Accessible" in this context also has the meaning of "universally usable". In other words, accessible solutions are not dedicated solutions for persons with disabilities, but an extended usage concept that wherever possible includes all target groups. For example, the software used in your office should permit adaptation to the needs (e.g. contrast, display size, form of information display) of the broadest possible potential user group.

*Information processing systems, acoustic and visual sources of information and communications facilities are accessible when they can be reached, accessed and used by persons with disabilities in the normal way, without particular difficulty, and without requiring assistance from other parties.*

Definition of accessibility (paraphrased) in accordance with the German disability discrimination and general equal treatment act (BGG), Section 4

 The GS mark demonstrates compliance with the minimum safety and ergonomics requirements and serves as a reference during procurement. Always procure work equipment bearing the GS mark and obtain the associated certificate.



Monitors, keyboards, mice, and also office furniture and lights are examples of work equipment in this context.

## Protection of non-smokers

Tobacco smoke contains a numerous substances many of which are classified unequivocally as carcinogenic. As an employer, you therefore have a duty to protect your non-smoking employees effectively at workplaces against the health hazards of tobacco smoke. You can meet your duty of protection by means of structural, technical or organizational measures. Smokers and non-smokers may for example be separated, smoking zones created, or ventilation measures implemented. You can also impose a general smoking ban. Observe the workers' representation's right of co-determination where applicable. No obligation exists to ensure that smokers may smoke unhindered. It is advantageous for such measures to be combined with campaigns to encourage giving up smoking.

Consider fire safety when setting up a smoking zone. Provide suitable, fireproof and ideally self-extinguishing ashtrays. Ensure that ashtrays are emptied into suitable receptacles. Smoking zones must be kept free of any flammable materials.

# 3 Workplaces and tasks: hazards and measures

## 3.1 Work organization and management

By organizing work carefully, you create the conditions for smooth and effective interaction between human beings, technology, information flows and organizational units within your company. During the design of work and performance of the risk assessment, pay particular attention to work content, work procedures, and social interaction.



### Statutory references

- Section 5 of the German occupational health and safety act (ArbSchG)
- Sections 3 to 7 of the German working hours act (ArbZG)
- Section 3 of the German Ordinance on Workplaces (ArbStättV)
- Sections 3 and 4 of DGUV Regulation 1, Principles of Prevention



### Hazards

Hazards to your employees arise primarily through:

- Unfavourable design of psychosocial working conditions
- Unclear or contradictory requirements, particularly when tasks, responsibilities and the scope of authority are not clearly defined (e.g. unjust distribution of tasks, opaque evaluation criteria)

- Work procedures that are highly labour-intensive and allow employees little control over timing and content
- Incomplete work tasks and lack of variation between tasks
- Overload and underload, unsuitable skills
- Inadequate working time arrangements or cover arrangements for absent employees
- Poor communication and cooperation (e.g. a lack of discussion and poor social support between employees, lack of trust, competition pressure, conflicts)
- Poor appreciation of employees and absence of feedback
- Limited opportunities for career progression, development and change, leading to demotivation, absenteeism and high staff turnover

These phenomena may increase the risk to employees of the following effects of strain and health impairments:

- A sense of monotony and satiation
- Stress and mental fatigue

- Workplaces and tasks: hazards and measures
- Forms of mental disorder (depressive disorders, anxiety disorders)
- Disorders of the locomotor apparatus
- Cardiovascular disorders



## Measures

Measures relating to the work task and work content

- Ensure clarity by setting out and describing tasks, functions and responsibilities for your employees unambiguously in the form of job and function descriptions and organizational charts. Give consideration to cover arrangements for absent employees.
- Grant your employees freedom to manage tasks in their own time by promoting an independent and forward-thinking approach to work, for example by allowing them to plan processes themselves. Grant your employees freedom to define the content of their work.
- Ensure that work tasks are assigned integrally, i.e. that employees are able to prepare, organize and monitor entire tasks themselves.
- Aim to reduce the proportion of time spent on monotonous tasks, for example by diversifying tasks.
- Where employees hold substantial responsibility, ensure that they enjoy appropriate social and organizational support. Where work entails little responsibility, consider transferring tasks and responsibility to the employees.
- Provide your employees with the information they need in good time, and involve them in the process of work organization.
- Organize work such that your employees are able to complete the specified volume of work within their normal working hours. In this context, take account of delays caused for example by failures or technical outages.
- Involve your employees in determining the arrangements for working hours, and ensure that both company and private interests are considered.

Measures relating to communication, cooperation and social interaction

- Put clear rules and structures in place for communication.
- Conduct regular group and team discussions. Address the subject of cooperation and the background to procedures and processes within your company.

- Promote an atmosphere of mutual esteem among your employees by addressing conflicts swiftly, offering training, and if appropriate drawing up guidelines for good cooperation.
- Facilitate discussion and mutual support between employees.
- Create clear arrangements for the handling of situations that lead to emotional stress, for example contact with difficult customers.
- Facilitate discussion between departments. An understanding of the tasks and functions of upstream and downstream company units can assist in reducing misunderstandings and enhancing efficiency.
- Ensure that your employees receive regular constructive feedback from their superiors over and beyond mere discussions.
- Determine your employees' need for training and organize suitable training measures.



Health-conscious behaviour begins with your own.

- Be aware: give conscious consideration to your own health and risks to it.
- Acquaint yourself with behaviour conducive to good health, and adopt it.
- Apply your knowledge to the employees in your company.



## Further information

- GDA-Arbeitsprogramm Psyche (eds.): Arbeitsschutz in der Praxis. Empfehlungen zur Umsetzung der Gefährdungsbeurteilung psychischer Belastung (recommendations for assessment of mental stress). Berlin, 2016
- VBG (eds.): Gesund und erfolgreich führen.
- Informationen für Führungskräfte (= VBG-Fachwissen, Version 1.0/2013-04, healthy and successful management). Hamburg
- DGUV (eds.): Fachkonzept: Führung und psychische Gesundheit (management and mental health). Berlin, 2014
- VBG (eds.): Gefährdungsbeurteilung psychischer Belastung. Handlungshilfe für die betriebliche Praxis (= VBG-Fachwissen, Version 1.0/2015-05; risk assessment of mental stress). Hamburg.
- EN 614, Safety of machinery – Ergonomic design principles – Part 2, Interactions between the design of machinery and work tasks, date of publication: 2008-12

## 3.2 Workplaces

How do your employees reach their workplaces safely? What happens when a fire breaks out or some other emergency situation arises? How is the building evacuated? This chapter provides you with general information on the workplace at which the offices of your company are located.



### Statutory references

- Sections 3, 6 and 15 to 17 of the German ordinance on industrial safety and health (BetrSichV) in conjunction with Annex 1 concerning special regulations for particular items of work equipment and Annex 2 concerning test regulations for installations requiring regular inspection, Section 2, elevator installations
- Sections 3 to 4 of the German Ordinance on Workplaces (ArbStättV) in conjunction with the Annex, Requirements and measures for workplaces in accordance with Section 3 (1) Nos 1 to 3
- TRBS 3121 technical rules for industrial safety and health, operation of elevator installations
- ASR A1.5/1,2 technical rules for workplaces, floors
- ASR A1.6 technical rules for workplaces, windows, skylights, translucent walls
- ASR A1.7 technical rules for workplaces, doors and gates
- ASR A1.8 technical rules for workplaces, circulation routes
- ASR A2.1 technical rules for workplaces, protection against falls from a height and from falling objects, entry to hazard areas
- ASR A2.2 technical rules for workplaces, measures to prevent fire
- ASR A2.3 technical rules for workplaces, escape routes and emergency exits, escape and rescue plans
- ASR V3 a.2 technical rules for workplaces, accessible design of workplaces



## Hazards

Your employees may be exposed to a variety of hazards:

- Falling, tripping and slipping, for example on steps, damaged or constrained circulation routes, and smooth or damp floors
- Pinch hazards on power doors and gates, such as entrance or elevator doors
- Entrapment in elevators
- Burns or suffocation in the event of a fire
- Falls, for example from (half-)landings and balconies
- Bumping into glazed areas
- Cutting on glass after glazing breakage



## Measures

- Ensure that space is not constrained in circulation routes in the building, for example by chairs or works of art.
- Check for visible damage to floor coverings and steps (such as loose carpet tiles, broken-off edges of steps). Instruct your employees to report damage. Inform your landlord should you not be able to commission the repair yourself, and ensure that the repairs are actually carried out.
- Check that the floor coverings in the building exhibit adequate slip resistance. Request the corresponding documentation (Table 1).
- Prevent moisture from entering the building, for example by means of an adequately dimensioned floor mat in the entrance area.

**Table 1** Slip resistance and displacement volume of floor coverings (excerpt from ASR A1.5/1,2 Annex 2)

Work rooms and areas and circulation routes in work premises	Slipping risk assessment group (R group)	Displacement volume with code for the minimum volume
Entrance areas, indoor	R 9	
Entrance areas, outdoor	R 11 oder R 10	V 4
Steps, indoor	R 9	
Steps, outdoor	R 11 oder R 10	V 4
Ramps, indoor (e.g. wheelchair ramps, gradients between differing floor heights, transport routes)	One R group higher than that required for the entrance floor covering	V (volume) value of the entrance floor covering, if applicable
Toilets	R 9	
Changing rooms and washrooms	R 10	
Break rooms (e.g. staff rooms, staff canteens)	R 9	
First-aid areas and similar facilities (see ASR A4.3)	R 9	
Office kitchens	R 10	
Paths	R 11 oder R 10	V 4
Ramps (e.g. for wheelchairs)	R 12 oder R 11	V 4
Garages, high-rise and underground car parks not exposed to the elements	R 10	
(pedestrian areas in which a risk of slipping, e.g. caused by moisture, does not arise)	R 11 oder R 10	V 4
Garages, high-rise and underground car parks exposed to the elements	R 11 oder R 10	V 4
Outdoor parking areas		



**👍** Note that floor coverings with substantial differences in their slip resistance can present a trip and slip hazard for your employees. For this reason, the slip resistance of the floor coverings of adjacent floors should not differ by more than one R group (Table 1).

- Inform your employees how the alarm will be raised in the event of a fire or other emergency situation. Use an escape and rescue plan should it exist.

**👍** Should the escape and rescue routes in your office areas or within the building be complex (for example via intermediate storeys, through larger rooms, involving changes in direction or routes deviating from the normal circulation routes) or people unfamiliar with the site (e.g. visitors, temporary employees) frequently be present in your office premises, an escape and rescue plan must be in place.

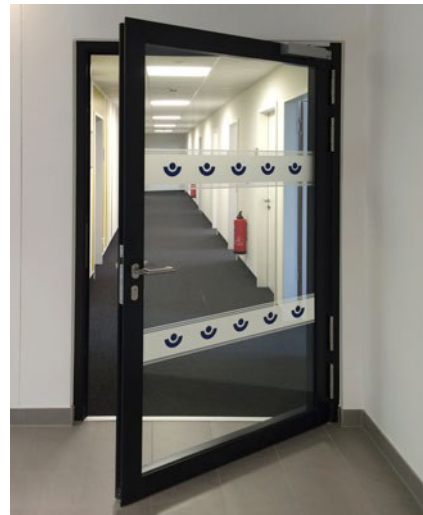
- Check that suitable railings or parapets are present at points where a risk of falling exists (e.g. on balconies, flights of stairs or landings) (Table 2). If necessary, have adaptation work carried out.

**Table 2** Heights of railings and parapets

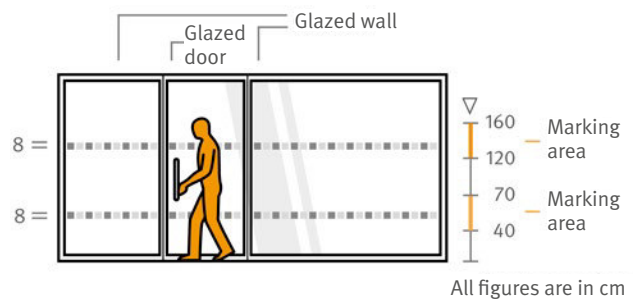
Fall height	Height of railing or parapet
From 1 m to 12 m	At least 1 m; parapets may be reduced to a height of 0.80 m when at least 0.20 m in depth
Over 12 m	At least 1.10 m

### Elevators

- Ensure that elevators are inspected regularly. A notice stating when the next inspection of the elevator is to be performed and by whom it was last inspected must be posted inside the elevator (e.g. in the form of an inspection plate).
- Determine how persons trapped within an elevator can be rescued from it. An emergency call facility must be present in the elevator, and the name and telephone number of the service provider or person responsible for rescue from the elevator must be posted at least at the main access point to the elevator.



**Figure 1**  
Glazed area with marking at eye level also suitable for disabled persons.



**Figure 2** Markings on fully glazed areas

**👍** In the interests of accessible building design, doors and increasingly also windows are now being equipped with electric power drives. In order to protect employees against injury, these doors and windows are equipped with safety systems. Ensure that these systems are checked regularly in the interests of safe operation.

### Glazed areas

- Where a risk exists of persons walking into transparent glass areas and doors, ensure that they are marked at eye level. Ensure that your employees cannot be injured by shattering of the glass areas. Measures to prevent this include shatterproof materials, suitable screening or shatter protection film.

Observe the additional requirements of persons with disabilities at your workplace, such as the raising of alarms for persons with impaired hearing.



### Further information

- VBG (eds.): Arbeitsstätten sicher planen und gestalten (= VBG-Fachwissen; Version 3.1/2015-01; safe planning and design of workplaces), Hamburg.

## 3.2.1 Lighting

The lighting provided in offices must be suitable for the type of visual task performed and adapted to the vision of your employees. This is essential in order for work to be performed at VDU workstations without giving rise to disorders. The concentration and well being of employees is influenced substantially by the lighting and the incidence of daylight.



### Statutory references

- Section 3 of the German Ordinance on Workplaces (ArbStättV) in conjunction with the Annex, Requirements and measures for workplaces in accordance with Section 3 (1) Nos 3.4 and 6.1
- ASR A3.4 technical rules for workplaces, lighting
- ASR A3.4/3 technical rules for workplaces, safety lighting, visual emergency wayfinding systems



### Further information

- DGUV Informative publication 215-210, natural and artificial lighting of workplaces
- DGUV Informative publication 215-211, daylight at the workplace, performance-enhancing and healthy (formerly BGI/GUV-I 7007)
- DGUV Informative publication 215-442, lighting in offices, assistance in planning of artificial lighting in office areas (formerly BGI 856)
- DGUV Informative publication 215-444, protection against sunlight in offices (formerly BGI 827)
- DIN 5035, Artificial lighting – Part 8: Workplace luminaires – Requirements, recommendations and proofing, date of publication: 2007-07
- EN 12464, Light and lighting – Lighting of work places – Part 1: Indoor work places, date of publication: 2011-08



## Hazards

Possible hazards are:

- Visual stress caused by inadequate illumination (for example owing to insufficient illuminance or to glare or reflection)
- Insufficient daylight
- Failure to recognize danger zones owing to poor lighting

The effects upon your employees may for example include:

- Headaches
- Burning and running eyes
- Visual snow
- Tension
- Premature fatigue
- Concentration and sleep disorders
- Injury caused by falls, slips or collision



## Measures

Ergonomic office lighting enhances the performance and health of your employees.

- Ensure that wherever possible, work rooms have sufficient daylight and visual contact with the outdoor environment. Daylight has a positive influence upon human well being and performance.
- Workplaces receive adequate daylight when for example the ratio of the translucent area of the room envelope to the room floor area is at least 1:10.
- Ensure adequate and homogeneous illumination without major differences between light and dark areas at the workplaces.
- Ensure that work surfaces, desks and screens are free of disturbing reflections and glare, for example by the use of suitable work equipment, organization of the workplaces with the line of sight parallel to glazed walls, and if applicable the use of sun blinds.
- Observe the minimum illuminance values and have the values checked if necessary (Table 3). Take account of the fact that demanding visual tasks and older employees both require more light (e.g. 750 lux rather than 500 lux).

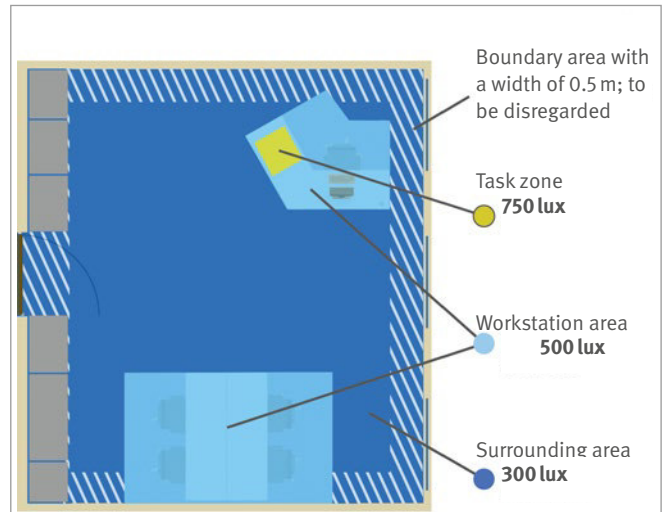



Figure 3 Task zone lighting

**Table 3** Minimum illuminance values with reference to ASR 3.4, Annex 1

Writing, reading, VDU work, first-aid areas	500 lux
Technical drawing (drawing by hand)	750 lux
Area surrounding the VDU workplace, filing, copying, reception desk	300 lux
Circulation areas and corridors	50 lux
Circulation areas and corridors at landings and steps	100 lux
Filing rooms, break rooms, office kitchen, toilets	200 lux

- Use ceiling, hanging and if appropriate supplementary wall lamps to ensure glare-free background lighting. The use of desk or standing lamps alone is not sufficient.
- For particularly demanding visual tasks, increase the illuminance on a minimum area of 600 mm × 600 mm to at least 750 lux (Figure 3), for example by means of a suitable desk lamp.
- Avoid glare by the use of non-glare lamps with a UGR value no greater than 19.

- Wherever possible, ensure that the incidence of light upon the workstations is from the side and does not throw intrusive shadows upon the work surface.
- In particular, direct luminaires should not be located directly above employees' heads.

 The best choice of artificial light source is ceiling lighting by means of fluorescent lamps or LEDs. LEDs have a lower power consumption, longer life, provide 100% homogeneous lighting as soon as they are switched on, and do not require an electrical ballast or lamp starter.

- Observe the recommended brightness (reflectance) levels of the ceilings, walls and floors.
- Ensure that no sources of glare (e.g. windows, reflecting furniture surfaces) are present in the main direction of sight.
- Avoid major differences in brightness (maximum differences in luminance: 3:1 at the workstation, 10:1 in the surrounding area), which is a cause of eye stress.
- Only use lamps of the same colour temperature within a room. Colour temperatures of 3,300 K to 5,300 K are recommended for standard lighting in offices.
- Many work tasks, and your employees' well being, require good colour rendering by the lamps (colour rendering index Ra of at least 80). This also ensures that the colours of safety symbols are not distorted.
- Have your lighting system cleaned regularly and the lamps replaced if necessary. Avoid flickering and other faults caused for example by faulty lighting equipment. Always have the maintenance and repair of lighting equipment performed by skilled persons.
- Give consideration to the safety lighting on rescue routes and also have it checked regularly.