



quality
office

GUIDELINE

Quality Criteria for Office Workplaces

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Requirements for products

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Preface

In recent years, offices have continued to grow in importance as places of work. At the beginning of 2020, almost 60 percent of all of the employed persons in Germany stated that they spend most of their working time in offices. Ten years earlier, this figure had amounted to 44 percent of all employees (IBA study 2019/2020). Other European countries witnessed a similar shift to working at desks, in communication rooms and in transition areas. The health of employees and the productivity of companies are influenced by the working conditions in offices.

Compared to most jobs in manufacturing trade, office work is less physically demanding. As in other professions, however, muscle and skeletal complaints are among the most common causes of incapacity for work with office employees.

One of the aims of the Quality Criteria for Office Workplaces guideline is therefore to help rectify this situation. The first part of the guideline, which is presented here, focuses on products. It defines the requirements that furnishings have to meet and not only provides information on ergonomics and occupational safety, but also helps users assess the functionality, flexibility, durability and environmental quality of furniture. In order to ensure a safe, versatile and long use of office furnishings, some of these requirements far exceed those stipulated by official standards. The second part of the guideline defines the requirements that people have to meet if they provide advice for the design or redesign of places of work, develop furnishing concepts and draw up specific implementation plans.

Concentrated work, communication and transition areas

Today, office work comes in many forms. That's why design concepts are needed for more than just the classic desk workstation. Around half of the working time in offices is spent on activities with a high share of communication, creative teamwork, workshops and short consultations regarding ongoing projects. Suitable places are necessary for all of these activities. Often it is therefore no longer enough to just have a conference room where everything is done that cannot be performed at an office desk. On the contrary, alternative spaces are needed that can be used for different kinds of communication and teamwork.

Telework, mobile working and office work from home¹

In addition to working in offices or in rented external areas such as co-working spaces, many employees are now also working from home. The situation regarding the home as the place of work is clear if the employees have an agreement or contractual arrangement regarding the home as a location for teleworking. In that case, the equipment is subject to the same requirements as at workstations in offices. However, home workstations are mostly only used as a form of mobile work on an intermittent basis. Moreover, many employees do not have the space at home for a professional office workstation. That is why more compact alternatives that can be well integrated into the home environment must be available. The compromises necessary for this may neither affect the health of the employees nor diminish their performance. In order to also provide additional orientation in this area, this guideline contains not only the requirements for office furniture and seating for use in office environments but also, for the first time, requirements and recommendations for choosing suitable furniture for occasional mobile work at home and other comparable places of work.

Prevention and culture

A great deal has already been achieved if workplaces in offices and at home are safe and beneficial to health and the total package of different or variable furnishings are adapted to a variety of activities. Nonetheless, good concepts for workplaces, offices and other spaces also have another quality in that they provide a way to experience the corporate culture. Demographic change shows just how important this is, because many companies are already finding it difficult to fill vacant positions. The competition for sought-after workers will further intensify as the baby boomers leave the workforce. The ability to win over and retain employees will then be a decisive factor in companies' commercial success. A well-designed working environment will then be even more important than at present. After all, it is not just a good indicator of the appreciation that companies have for their employees – offices are also an important meeting point and a place that people identify with. Creating such designs is the task of experts who do so on the basis of flexibly usable and sustainably produced products of high quality and great durability.

High quality from the very start

The first edition of the Quality Criteria for Office Workplaces guideline, which was published in 2006, aimed to provide comprehensive guidance on how to choose products and services for the furnishing of office workstations. From the very start, the guideline encompassed both the requirements regarding the ergonomic quality and safety of the products as well as the criteria for the functionality, sustainability and flexibility of office furnishings. This principle also forms the basis for the third edition of the guideline, which has been completely revised. The revision included a detailed examination of how the transformation of office work is changing the requirements that products have to fulfil. More than ever before, the furnishing of workplaces is also an investment in the future of people and companies. The editors of this guideline feel they have an obligation to help ensure that the results of this form of shaping the future will achieve the highest quality possible.

1 There is currently (December 2021) no legal definition of all kinds of home-based office work in Germany. The requirements for telework can be found in the Workplace Ordinance (ArbStättV). Information on mobile work can be found in the DGUV publication FBVW-402 "Office work from home – during and beyond the SARS-CoV-2 epidemic".

Explanations

The Quality Criteria for Office Workplaces guideline consists of two parts. The first part, which is presented here, defines the requirements that the furniture and seating for office workstations, teleworkplaces and mobile work at home need to fulfil. Some of these pieces of furniture can be used in all of these areas, while other products are, however, limited in their scope of use. You can find information about the items' use in the introductions of the individual chapters.

Weighting of the requirements

The quality and suitability of office furnishings are dependent on a large number of different aspects. In this respect, some of the criteria can change their meaning when different workstation elements are combined (system ergonomics) and must conse-

quently be interpreted within the context of their application. The guideline therefore contains different groups of requirements.

- Criteria formulated as "shall" phrases are important to all office workplaces and the majority of workplaces in a home environment, irrespective of the application context and the surroundings of the furnishings concerned.
- Criteria formulated as "should" phrases are also of significance for nearly all application cases. However, individual requirements may overlap, depending on the context, with other furnishing aspects or with certain product characteristics. In these cases, consideration shall be given to which priority is to be assigned to the individual design aspects in the overall context of the respective workstations.
- Criteria preceded by the word "optional" are recommendations that further increase the utility of products and furnishings.

From guideline to quality sign

The Quality Criteria for Office Workplaces guideline serves as the basis for awarding the Quality Office sign. This certification is open to all companies whose services and products meet the quality requirements of this guideline.

The DGUV Grundsatz 315-411 (German Social Accident Insurance principle 315-411) is being released in parallel with this guideline. The requirements it contains largely coincide with those of this guideline. As a result, Quality Office certified products are also suitable for proving compliance with DGUV Grundsatz 315-411.

Further information can be found at

www.quality-office.org



Product related recommendations

1 Quality requirements for the basic conception of products and product-related services

See also the Bibliography at the end of this publication.



The following quality criteria describe overarching requirements that must be taken into account for all products earmarked for use in equipping office workstations.

Section 11 describes the basic requirements that products must fulfil. They provide occupational safety at the workstation and ensure general product quality.

Section 12 describes services that help to ensure the products' quality of use remains at a high level. It is irrelevant whether the respective services are provided by the manufacturer, a trade dealer or other partners of the manufacturer.

Section 13 provides a summary of the environmental quality requirements of products and their associated services, provided they have not already been stated in sections 11 or 12 for other reasons. The requirements described aim to promote the sustainable use of resources in an environmentally compatible way.

11 Requirements for the basic conception of products

	Quality Criteria	Benefits
11.1	General product requirements	
11.1.1	 <p>All products shall bear the GS mark</p>	The GS mark (= "Tested for safety") guarantees minimum standards for the safety, ergonomics and longevity of the products.
11.1.2	 <p>All products equipped with parts to be adjusted by electromotive means shall be marked with the CE symbol.</p>	The CE symbol (= Communauté Européenne) documents conformity with the European Machinery Directive 2006/42/EC.
11.2	Requirements for the product conception	
11.2.1	All products shall be series-produced products.	Series-produced products ensure that furniture and seating that is bought again later on is of the same standardized quality.
11.2.2	All products shall be available for subsequent delivery for a defined period of time.	This ensures that existing furnishings are expandable during the entire planned period of use.
11.2.3	Products should be expandable or convertible by means of add-ons and/or constructional elements or mounting parts, respectively, as relevant for their functioning and in correspondence with their expected uses.	This ensures workplaces can also be subsequently adapted to operation specific, individual and changing requirements.
11.3	Requirements for the product-related quality management	
11.3.1	The manufacturer shall have a structured quality management system installed, e.g. in accordance with ISO 9001.	Ongoing quality control and quality assurance ensure a high product quality and thus the longevity of the products.

	Quality Criteria	Benefits
11.4	Requirements for the product-related information management	
11.4.1	The manufacturer shall provide meaningful application information, particularly with regard to the safe installation and use of the products.	Meaningful information helps when operating and using the product as well as when developing the functional design of workplaces and work spaces.
11.4.2	Disassembly instructions shall be available for furniture that includes electrical or electronic components. This is not required if the separation of the electrical parts is self-explanatory.	The possibility of disassembly of furniture is a prerequisite that enables its proper repair and disposal.
11.4.3	Instructions, manuals and labels shall be available in the official language of the country of destination and/or be clarified by means of comprehensible pictograms.	Comprehensible product and application information is a prerequisite for the proper use of the products and for safety at work.

12 Requirements for product-related services

	Quality Criteria	Benefits
12.1	Requirements for local sales services	
12.1.1	The sales organization should have trained sales and advisory personnel available in all sales regions.	This ensures fast and professional consultation and the support of the decision-making process.
12.1.2	In all sales regions, showrooms should be available in which the essential variants of products or services can be inspected and tested.	The quality and the performance of the products can thus be judged on the basis of the original item.
12.1.3	If furniture is purchased for a large number of people, the sales organization shall be able to provide original samples for the purpose of testing them on site for an appropriate period of time (at least 14 days).	This is the only way that all users can themselves evaluate the functioning, ergonomics and quality of office furnishing products.
12.2	Requirements for delivery and assembly	
12.2.1	The sales organization should have trained technical customer service staff available in all sales regions.	This ensures that both new furnishings and changes to existing furniture are executed quickly, professionally and cost cost-efficiently.
12.2.2	The employees of the sales organization shall be able to perform delivery and installation at the respective future place of work in accordance with the layout planning.	
12.3	Requirements for after-sales services	
12.3.1	Upon delivery and installation of the furnishings, an individual introduction into how to use the item(s) concerned should be offered together with a check for optimal functioning.	This ensures that the furnishings are correctly used and that their potential benefits take effect.
12.3.2	Suppliers of offices and seminar room furnishings should be able to offer regular checks for optimal functioning.	Changes to company organizations and work processes generally also require adjustments to workstation design. Regular checks and expert advice ensure that the necessary adjustments are properly carried out.
12.3.3	Optional: Suppliers of furnishings for offices and seminar rooms should be able to offer maintenance contracts.	This measure gives the customer assurance that the utility of their furnishings is maintained over a long period of time.
12.3.4	The supplier should offer a spare part catalogue.	This facilitates replacement orders and creates cost transparency.
12.3.5	Spare part and supplementary deliveries of standard items shall be carried out within a few days.	Thus, waiting times during which products, furnishings and spaces can be used only partially or not at all are avoided.

13 Requirements for the ecological focus of products and services

	Quality Criteria	Benefits
13.1	Requirements for the ecological properties of products	
13.1.1	The manufacturer shall have installed a structured environmental management system, e.g. in accordance with ISO 14001 or EMAS II.	A professional environmental management system avoids or minimizes ecological impacts during the manufacture, use and disposal of products.
13.1.2	The materials used should be capable of being cleanly separated by type.	Ecological impacts during manufacturing, use and disposal are thus reduced or avoided.
13.1.3	The environmental properties of the materials used shall correspond to the state of the art. This should be documented by means of relevant test marks or other independent evidence.	
13.1.4	Upholstery and other foam material shall be low in harmful substances and recyclable.	This reduces the risk of harmful emissions and ensures environmentally friendly disposal.
13.1.5	Textile coverings shall be fixed without the use of adhesives or by means of solvent-free adhesives.	This helps to create an office environment low in harmful substances.
13.1.6	Products should be designed in such a way that they can be repaired or have individual components replaced.	This can extend the service life of the products.
13.2	Requirements for the associated services	
13.2.1	The manufacturer should itself or by means of a third party be able to take back its own products after use and either ensure their further use or have them properly disposed.	Depending on the respective conditions (type of product, transport paths, etc.), the products can either have their service life extended or the materials used can be returned to the raw materials cycle.

2 Quality requirements for office chairs

See also the requirements for the basic conception of products in chapter 1 as well as the Bibliography at the end of this publication.

Office chairs are office work chairs, other types of swivel chairs, visitor chairs and conference chairs. These chairs are used in office areas or for office work at home. They are part of the work equipment, the function and formal design of which have a direct

impact on the wellbeing and the performance of the people concerned. Their quality with regard to safety, functioning and ergonomics is thus of great importance.

20 Requirements for all types of office chairs

	Quality Criteria	Benefits
20.1	Requirements for the materials to be used	
20.1.1	All visible steel and aluminium parts of the seating shall be available with durable surfaces.	These surfaces are thus largely protected against damage and "optical ageing", which is a prerequisite for an aesthetically pleasing design and for longevity.
20.1.2	For the upholstery, a choice of colour and design collections should be available for the coverings.	This enables a differentiated and diverse interior design.
20.2	Requirements for chair castors	
20.2.1	Seating on castors shall be secured against unintentional rolling (e.g. by means of castors with load-controlled braking in accordance with DIN EN 12529) and the castors must be of identical design.	This is a key precondition for safe use.
20.3	Requirements for the upholstery	
20.3.1	The upholstery shall make sitting very comfortable and promote a sitting posture that is easy on the back.	An appropriate level of comfort is a key aspect of good sitting and promotes prolonged concentration. The design and composition of the upholstery play an important role here.
20.3.2	Upholstery materials that prevent heat and moisture from building up are to be used.	
20.3.3	Upholstered seats shall permanently provide for an ergonomically beneficial pressure distribution.	This prevents pressure peaks in the areas of the upper thighs, the buttocks and the ischial tuberosities.
20.3.4	Seat and backrest upholsteries should be replaceable.	The longevity of the products increases.
20.4	Requirements with regard to ease of servicing	
20.4.1	Chair castors shall be interchangeable by means of simple aids or without using any tool.	Replacing hard castors by soft castors and vice versa is facilitated. Flexibility of use is increased.
20.4.2	It should be possible to retroactively add or replace components and parts. This applies e.g. to <ul style="list-style-type: none"> • armrests • headrests/neckrests • writing tablets 	Thus, any changes necessary can be implemented quickly and cost-efficiently.

21 Requirements for office work chairs

See also the requirements for the basic conception of the products in chapter 1, the requirements for all types of office chairs (section 20) and the Bibliography at the end of this publication.

People working in offices spend a large part of their working time in a sitting position that can be unfavourable due to static posture and lack of movement. Therefore, "dynamic" sitting on correspondingly suited office work chairs is important for health, well-being, and work performance. The same applies

to ergonomic upholstery and adjustment options to adapt the chair to individual requirements.

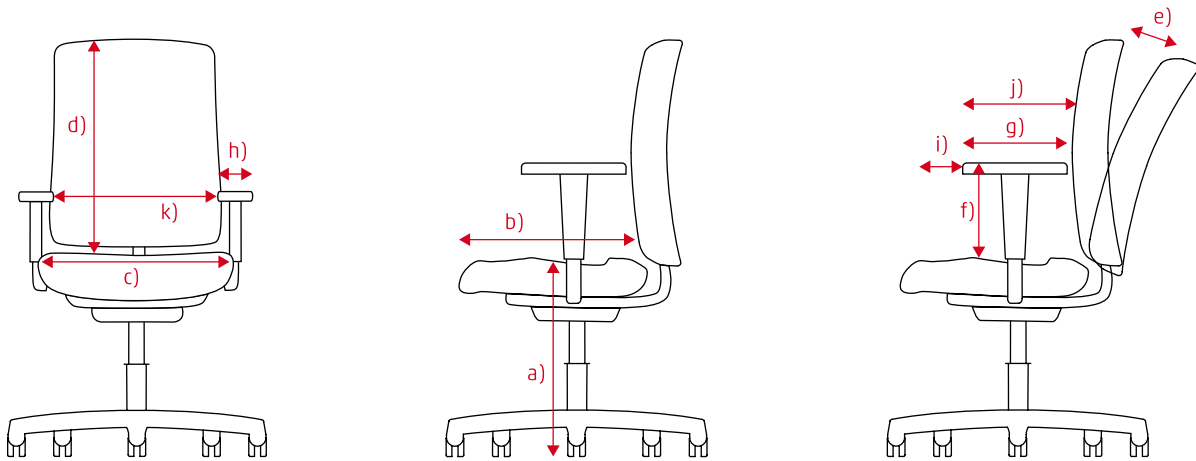
Note: The following requirements apply to workstations in offices as well as for teleworking from home (see the preface).

	Quality Criteria	Benefits
21.1	General requirements for office work chairs	
21.1.1	Seating shall be stable. The manufacturer's specifications concerning maximum user weights are to be taken into account when checking the seating.	The stability of office work chairs shall be ensured irrespective of the sitter's posture.
21.2	Requirements for the base structure	
21.2.1	The seat's height shall be adjustable. (See section 21.7 Dimensions)	To have the height of the seat adjusted to the respective user's size is a prerequisite for ergonomic seating.
21.2.2	Office work chairs shall permit the fitting of hard castors (for use on soft floors) and soft castors (for use on hard floors).	Soft castors increase the rolling resistance whereas hard castors reduce it (occupational safety). Castors used correctly minimize the wear on the flooring materials.

	Quality Criteria	Benefits
21.3	Requirements for the mechanisms	
21.3.1	In order to permit dynamic sitting, seat and backrest shall move synchronously, i.e. maintaining a matched ratio.	Thereby, they support the spinal column during the entire sequence of movement and avoid static postures. Dynamic sitting promotes frequent changes in posture. This supports an alternating load on different muscle groups and the functional capacity of the intervertebral discs.
21.3.2	The backrest shall form a sufficiently large opening angle with the seat. (See section 21.7 Dimensions)	This is a prerequisite for ensuring that there is sufficient space available for movement.
21.3.3	The backrest resistance (resilience when leaned against) shall be adaptable to the weight of the user. This can be achieved either by using a manual adjustment that can be operated in a sitting position or by using an automatic weight adjustment system with supplementary fine adjustment.	This adjustment ensures that individually correct backrest contact is maintained.
21.3.4	Even if the working posture is inclined backwards, the front edge of the seat shall not rise at all or only imperceptibly.	This reduces the pressure on the back of the thighs and avoids obstruction of the venous return of the blood.
21.4	Requirements for the seat	
21.4.1	The seat's suspension should remain active even with the seat in its lowest position.	This avoids shocks to the spine when sitting down.
21.4.2	Optional: It should be possible to adapt the seat depth to the user's physical dimensions. To this end, the contours of the seat upholstery near the back shall be such that uncomfortable amounts of pressure are not felt at the buttocks and the coccyx. (See section 21.7 Dimensions)	The supporting area for the upper thighs and the buttocks can be adapted to the user's physical dimensions by means of the adjustable seat surface.
21.4.3	Optional: It should be possible to tilt the seat as a whole forward. (See section 21.7 Dimensions)	A seat that is tilted forward is sensible for activities that require sitting upright for longer periods of time. If the height of the desk is also adjusted, tilting the seat forward brings the spinal column into its natural double-S shape.

	Quality Criteria	Benefits
21.5	Requirements for the backrest	
21.5.1	The backrest shall be anatomically shaped and fully support the user's back. When sitting upright, a lumbar support shall provide support for the lumbar vertebral region (lordosis).	In conjunction with an individually adapted lumbar support, the anatomical shape reduces the static stress on the back muscles required to hold up the spine.
21.5.2	The lumbar support shall be formed and positioned so that it supports the user at optimum height, irrespective of his or her body size. This is achieved by adjusting the lumbar support itself or its height or the entire backrest. (See section 21.7 Dimensions)	
21.5.3	Optional: The depth of the lumbar support should be adaptable to the individual back contours.	The supporting effect of the backrest is thus improved.
21.5.4	The backrest shall be sufficiently high and extend to the user's shoulder region. However, the upper part of the backrest shall not extend so far forward that it causes an uncomfortable pressure on the user's back. (See section 21.7 Dimensions)	Support of the neck/shoulder region helps to relieve the spinal column and the musculature. It does not force large users into a non-ergonomic posture.
21.5.5	Optional: The office work chair should be offered with an adjustable headrest/neckrest.	For backward inclined sitting positions, headrests/neckrests minimize the static stress on the neck muscles required to hold up the head.
21.6	Requirements for the armrests	
21.6.1	Office work chairs shall be offered with height-adjustable armrests. (See section 21.7 Dimensions)	Individually adjusted armrests relieve the shoulder girdle and facilitate getting up and sitting down.
21.6.2	Armrests should be adjustable for width and depth or swivel.	This provides all users with sufficient room to move as well as with appropriate support for the shoulder and neck muscles. In this way, it promotes an ergonomically beneficial sitting position.
21.6.3	The armrests shall have an ergonomically shaped surface.	This prevents pressure from being exerted in the area of the forearms.
21.6.4	The armrests shall be replaceable and shall permit retrofitting if required.	This rapid adjustment to changed requirements and avoids high costs for assembly, rebuilding and procurement of new furniture.

21.7 Dimensions



Dimension	Measuring points	Minimum requirements ¹	
		Measured in accordance with DIN EN 1335-1:2002	Measured in accordance with DIN EN 1335-1:2020
a) Minimum adjustment range for seat height		400 bis 520 mm The adjustment range shall be 130 mm. (Permissible: 420 to 520 mm, adjustment range: 110 mm) ²	400 bis 520 mm The adjustment range shall be 130 mm. (Permissible: 420 to 520 mm, adjustment range: 110 mm) ²
b) Minimum adjustment range for the seat surface with adjustable seat depth	From the front edge of the seat to the front of the backrest	50 mm The adjustment range shall include the range of measurements from 400 to 420 mm.	50 mm The adjustment range shall include the range of measurements from 425 to 450 mm.
b) Seat depth, not adjustable		Between 380 and 440 mm	Between 425 and 485 mm
c) Minimum seat width		450 mm	450 mm
Inclination of the seat with non-adjustable seat inclination		Between -2° and -7°	Between +2° and -5°
Minimum adjustment range for the seat when the inclination of the seat is adjustable		Min. 6° The adjustment range shall include a seat inclination of between -2° and -7°.	Min. 5° The adjustment range shall include a seat inclination of 0°.
d) Minimum height of the upper edge of the backrest	Above the seat surface	480 mm	480 mm
Minimum adjustment range for the height of the lumbar support	Above the seat surface	Min. 170 to 230 mm	Min. 70 mm Within a range from 170 to 300 mm

Dimension	Measuring points	Minimum requirements ¹	
		Measured in accordance with DIN EN 1335-1:2002	Measured in accordance with DIN EN 1335-1:2020
e) Minimum range for changing the backrest inclination		15°	15°
f) Minimum adjustment range for the armrest height	Above the seat surface	100 mm The adjustment range shall include the range of measurements from 200 to 290 mm.	100 mm The adjustment range shall include the range of measurements from 200 to 290 mm.
g) Minimum armrest length		200 mm	200 mm
h) Minimum armrest width		50 mm	50 mm
i) Minimum distance between the armrest and the front edge of the seat		≥ 100 mm	
j) Maximum distance between the backrest and the front edge of the armrests			350 mm
k) Minimum adjustment range of the clear width between the armrests		460 to 510 mm	460 to 510 mm

- 1 Conformity with the required dimensions can be demonstrated on the basis of various measurement methods. These are specified in the standards DIN EN 1335-1:2002 and DIN EN 1335-1:2020. This can result in different dimensions even though the requirements are equally strict.
- 2 Restriction of the adjustment range by a maximum of 20 mm is permissible in exceptional cases in consideration of the partly conflicting requirements of anthropometry and mechanical design in conjunction with the ergonomic properties and features desired (e.g. adjustment of seat depth or seat inclination, depth suspension) and subjective preferences.

22 Requirements for visitor chairs and conference chairs

See also the requirements for the basic conception of the products in chapter 1, the requirements for all types of office chairs (section 20) and the Bibliography at the end of this publication

Ergonomics and sitting comfort are key aspects of product design even for seating that is generally only used for a short period of time. As a result, the same care should be used when selecting visitor chairs and conference chairs as is done when choosing office work chairs.

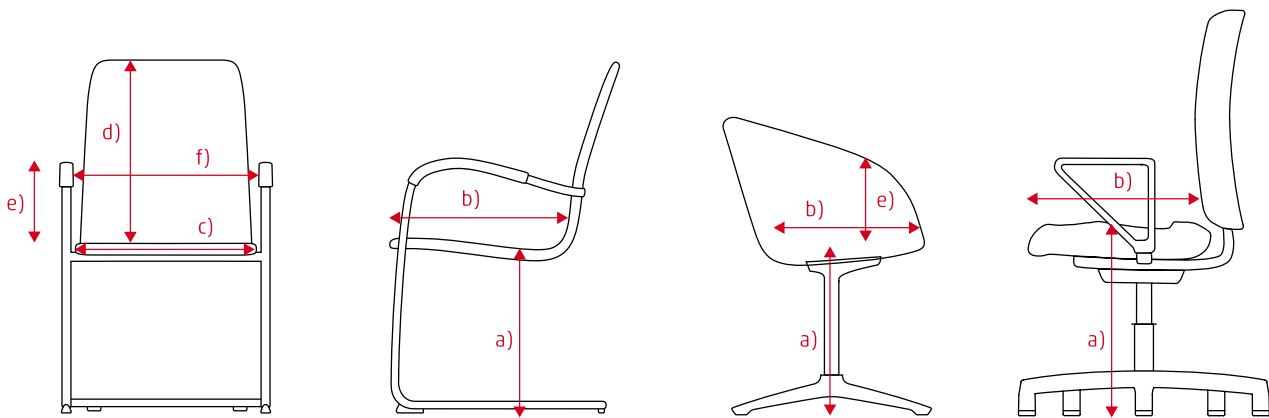
The requirements defined in this section for chairs for visitors and meetings refer to seating that is used in addition to an office work chair in the office environment or in a conference room. However, this seating

can also be used in cafeterias or event venues. The seating can be four-legged, cantilever or skid-base chairs or have a central column. Conference chairs are normally used in conference rooms and generally have a representative design.

	Quality Criteria	Benefits
22.1	General requirements for visitor chairs and conference chairs	
22.1.1	Seating shall be stable. The manufacturer's specifications concerning maximum user weights are to be taken into account when checking the seating.	The stability of visitor chairs and conference chairs shall be ensured for every sitting position.
22.2	Requirements for seat and backrest	
22.2.1	The seat shall be of sufficient width and depth. (See section 22.6 Dimensions)	This enables people of different physical dimensions to sit comfortably.
22.2.2	Models with upholstered seat surfaces should be available for use in offices, conference rooms and event venues.	They are more comfortable, particularly when sitting for long periods or at high temperatures.
22.2.3	The backrest shall be anatomically formed and shall specifically support the lumbar vertebral region (lumbar support).	The anatomical form reduces the static stress on the back muscles required to hold up the spine.
22.2.4	The backrest shall be sufficiently high. (See section 22.6 Dimensions)	Supporting the back over the greatest possible area helps to relieve the spinal column and related muscles.

	Quality Criteria	Benefits
22.3	Requirements for the armrests	
22.3.1	Visitor and conference chairs should be offered with armrests. Their height shall be ergonomically beneficial to the largest possible number of users. (See section 22.6 Dimensions)	Armrests relieve the shoulder girdle. In addition, they facilitate getting up and sitting down.
22.3.2	The clear width between the armrests shall be dimensioned so that it is ergonomically beneficial to the largest possible number of users. (See section 22.6 Dimensions)	This provides users with sufficient room to move and appropriate support for the shoulder and neck muscles. In this way, it supports an ergonomic sitting position.
22.4	Requirements for seating on castors	
22.4.1	Visitor chairs and conference chairs should be capable of being fitted with hard castors (for use on soft floors) and soft castors (for use on hard floors). Glides can be used instead.	Soft castors increase the rolling resistance whereas hard castors reduce it (occupational safety). Castors used correctly minimize the wear on the flooring materials.
22.5	Requirements for stackable chairs	
22.5.1	Stackable chairs should weigh as little as possible. If used as row seating, they should not weigh more than 8 kg.	This facilitates handling and ensures occupational safety when the seating is rearranged.
22.5.2	Stacked chairs shall be stable. If this can only be achieved with assistance, a stacking aid shall be offered. The manufacturer's specifications regarding the maximum stacking height must be taken into account.	
22.5.3	Optional: Suitable transportation devices should be offered for stackable visitor chairs and conference chairs.	

22.6 Dimensions



Dimension	Measuring points	Minimum requirements ¹	
		Measured in accordance with DIN EN 16139/ DIN EN 1335-1:2002	Measured in accordance with DIN EN 1335-1:2020
a) Seat height if the height is fixed		Between 400 and 500 mm	Between 400 and 500 mm
a) Minimum adjustment range for the seat height if the height is adjustable		420 to 510 mm (Permissible: 420 to 480 mm) ²	420 to 510 mm (Permissible: 420 to 480 mm) ²
b) Minimum seat depth		400 mm	425 mm
c) Minimum seat width		400 mm	400 mm
d) Minimum height of the upper edge of the backrest	Above the seat surface	360 mm	360 mm
e) Armrest height	Above the seat surface	Between 200 and 250 mm	Between 200 and 250 mm
f) Minimum clear width between the armrests		460 mm	460 mm

1 Conformity with the required dimensions can be demonstrated on the basis of various measurement methods, which are specified in the DIN EN 16139 standard or the DIN EN 1335-1:2002 standard as well as in the DIN EN 1335-1:2020 standard. This can result in different dimensions even though the requirements are equally strict.

2 Restriction of the adjustment range by as much as 30 mm is permissible in exceptional cases due to the partly conflicting requirements of anthropometry and mechanical design in conjunction with the desired ergonomic properties.

23 Requirements for swivel chairs for communication areas and mobile working from home

See also the requirements for the basic conception of the products in chapter 1, the requirements for all types of office chairs (section 20) and the Bibliography at the end of this publication.

Desk work and conventional meetings have now been joined by new mixed forms of working. A characteristic feature of these forms is that the period of use is limited and the users tend to change relatively frequently. As a result, seating furniture used in these areas does not need to be adjustable to the extent generally required of office work chairs. A new generation of office chairs was therefore developed to serve as an alternative to office work chairs. These new chairs combine high seating comfort with simple forms of dynamic sitting.

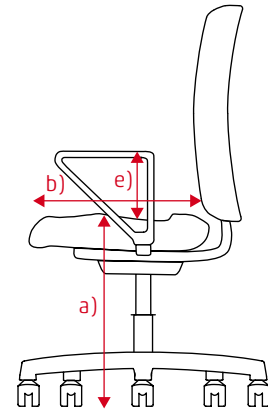
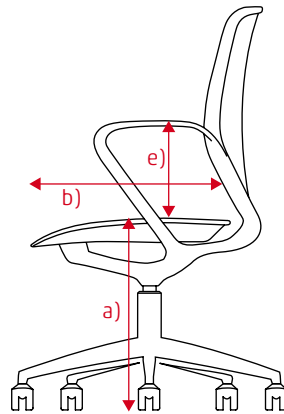
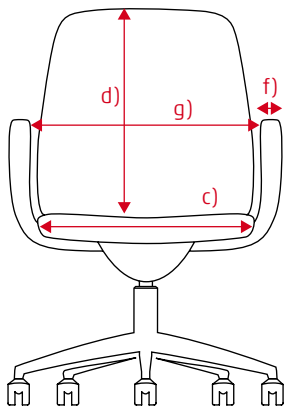
Due to their less technical design, products from this category are also suitable for mobile work from home, where they serve as an alternative to office work chairs.

However, it is recommended that people who frequently work at home use office work chairs from requirement category 21.

	Quality Criteria	Benefits
23.1	General requirements for swivel chairs for communication areas or for mobile working from home	
23.1.1	Seating shall be stable. The manufacturer's specifications concerning maximum user weights are to be taken into account when checking the seating.	The stability of swivel chairs for use in office communication areas or for mobile working at home shall be ensured for every sitting posture.
23.2	Requirements for the base structure	
23.2.1	The height of the swivel chairs shall be adjustable. (See section 23.6 Dimensions)	This enables the user to sit at a height that is optimal for him or her.
23.2.2	Swivel chairs should be capable of being fitted with hard castors (for use on soft floors) and soft castors (for use on hard floors).	Soft castors increase the rolling resistance whereas hard castors reduce it (occupational safety). Castors used correctly minimize the wear on the flooring materials.
23.3	Requirements for the sitting dynamics	
23.3.1	The seat and the backrest shall offer the user a high level of comfort. To this end, the backrest shall permit sufficient freedom of movement in order to enable relaxed leaning back.	This avoids static postures and promotes people's natural movements. Dynamic sitting promotes frequent changes of posture. This supports an alternating load on different muscle groups and the functionality of the intervertebral discs.
23.3.2	Optional: Seat and backrest should move synchronously, i.e. maintaining a matched relationship.	A seat that moves synchronously with the backrest increases comfort and reduces the stress on the ischial tuberosities.

	Quality Criteria	Benefits
23.4	Requirements for seat and backrest	
23.4.1	The seat shall be of appropriate width and depth. (See section 23.6 Dimensions)	This is a precondition for people of different physical dimensions to sit comfortably.
23.4.2	The backrest shall be anatomically formed and shall specifically support the lumbar vertebral region (lumbar support).	The anatomical form reduces the static stress on the back muscles required to hold up the spine.
23.4.3	The backrest shall be sufficiently high and extend to the user's shoulder region. However, the upper part of the backrest shall not extend so far forward that it causes an uncomfortable pressure on the user's back. (See section 23.6 Dimensions)	Support of the shoulder/neck region relieves the load on the spinal column and related muscles.
23.5	Requirements for the armrests	
23.5.1	Swivel chairs shall be offered with armrests. Their height shall be ergonomically beneficial to as many users as possible. (See section 23.6 Dimensions)	Armrests relieve the shoulder girdle. In addition, they facilitate getting up and sitting down.
23.5.2	The clear width between the armrests shall be dimensioned so that it is ergonomically beneficial to the largest possible number of users. (See section 23.6 Dimensions)	This provides users with sufficient room to move and appropriate support for the shoulder and neck muscles. In this way, it supports an ergonomic sitting position.

23.6 Dimensions



Dimension	Measuring points	Minimum requirements ¹	
		Measured in accordance with DIN EN 1335-1:2002	Measured in accordance with DIN EN 1335-1:2020
a) Minimum adjustment range for seat height		100 mm The adjustment range shall include the range of measurements from 420 to 510 mm.	100 mm The adjustment range shall include the range of measurements from 420 to 510 mm.
b) Seat depth, not adjustable		Between 380 and 440 mm	Between 425 and 485 mm
b) Minimum adjustment range for the seat depth, adjustable	From the front edge of the seat to the front of the backrest	50 mm The adjustment range shall include the range of measurements from 400 to 420 mm.	50 mm The adjustment range shall include the range of measurements from 425 to 445 mm.
c) Minimum seat width		400 mm	400 mm
d) Minimum height of the upper edge of the backrest	Above the seat surface	450 mm	450 mm
Height of the lumbar support, not adjustable	Above the seat surface	Between 170 and 220 mm	Between 170 and 300 mm
Minimum adjustment range for the adjustable height of the lumbar support	Above the seat surface	50 mm The adjustment range shall include the range of measurements from 170 to 220 mm.	50 mm Within a range from 170 to 300 mm
e) Armrest height (fixed height)	Above the seat surface	Between 200 and 250 mm	Between 225 and 275 mm
e) Minimum adjustment range for the adjustable armrest height	Above the seat surface	200 to 250 mm	50 mm The adjustment range shall include the range of measurements from 225 to 250 mm.
f) Minimum armrest width		40 mm	40 mm
g) Clear width between the armrests		Between 460 and 510 mm	Between 460 and 510 mm

1 Conformity with the required dimensions can be demonstrated on the basis of various measurement methods. These are specified in the standards DIN EN 1335-1:2002 and DIN EN 1335-1:2020. This can result in different dimensions even though the requirements are equally strict.

3 Quality requirements for office furniture

See also the requirements for the basic conception of products in chapter 1 as well as the Bibliography at the end of this publication.

Within the scope of this guideline, office furniture includes office desks, visitor tables and conference tables used in office areas as well as pedestals, office cabinets, pharmacy cabinets and partitions as well as tables for doing office work at home. They are work

equipment that has an effect on the health, the well-being and the performance of the people concerned. Therefore, they shall be of high quality with respect to safety, functioning and ergonomics.

30 Requirements for all types of office furniture

	Quality Criteria	Benefits
30.1	Requirements for the materials used	
30.1.1	Particleboards and fibreboards with veneer or melamine resin coating in accordance with DIN EN 14322 shall be used for all structural wood elements. Where structurally sensible, blockboards, laminated sheets or solid core panels can be used as alternatives.	The high quality of these materials ensures a high degree of stability for all such structural elements.
30.1.2	Particleboards shall meet the emission requirements of at least class E1 (proof on the basis of DIN EN 16516 or measurements on the basis of DIN EN 717-1 multiplied by a factor of 2). With the exception of drill holes for shelf supports, all exposed surfaces shall be covered.	As a result, particleboards are almost completely emission-free.
30.1.3	Veneers and coatings shall be applied to both sides of wood boards. Wood veneers shall be coated with a resistant lacquer or varnish.	This counteracts deformation and prevents the premature "optical ageing" of veneers.
30.1.4	All visible steel and/or aluminium parts shall be available with durable surfaces.	These surfaces are thus largely protected against damage and "optical ageing", which is a prerequisite for an aesthetically pleasing design and for longevity.
30.2	Requirements for the ease of servicing and quality of use	
30.2.1	It should be possible for all office furnishings to be easily and quickly disassembled, reassembled or modified by trained personnel. (Work on the mechanical parts is to be performed by specialist staff only).	Thus, any changes necessary can be implemented quickly and cost-efficiently.
30.2.2	It should be possible to replace drawers, intermediate shelves for cabinets and similar mounting parts tool-free.	
30.2.3	Assembly should largely be by means of plain fit and bolted connections.	This makes it easier to assemble and disassemble the furniture.
30.2.4	Office furniture should not produce any disturbing noises in the event of an impact or when the drawers are operated (sound damping).	This reduces disturbances.
30.3	Requirements for electrical installations and integrated technology	
30.3.1	Electrification shall comply with the "Guideline for electrical installations in office furniture".	This greatly helps to ensure that relevant regulations are complied with and that any electrical installation work is carried out professionally.
30.3.2	Plug-and-socket connections and similar electrification elements should be easily accessible.	This makes proper use easier.

31 Requirements for office desks

See also the requirements for the basic conception of the products in chapter 1, the requirements for all types of office furniture (section 30) and the Bibliography at the end of this publication.

The office desk is an essential element of workstation design. It shall permit individual configuration and flexible adaptation to different conditions at any time: Its design shall correspond to the tasks to be performed and it shall be adaptable to the users' physical dimensions.

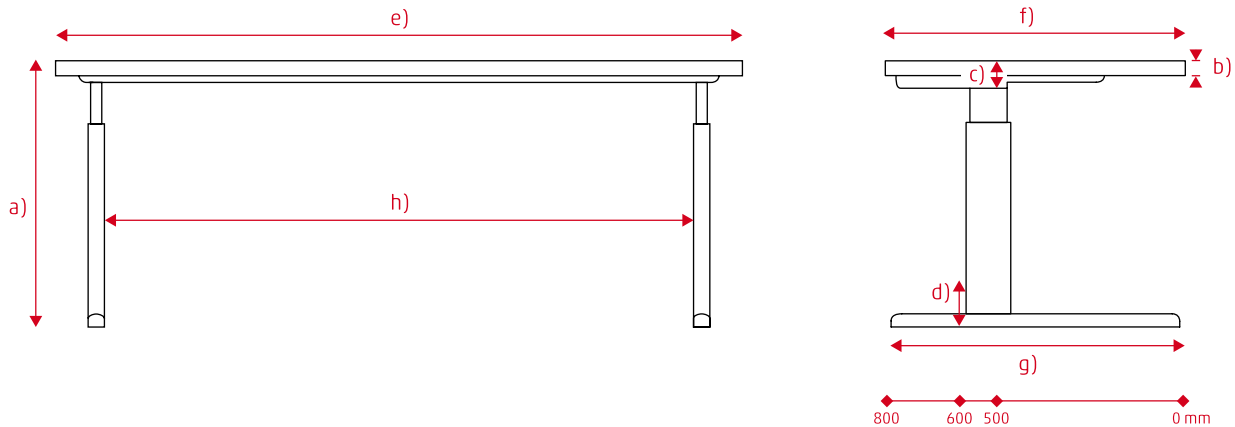
The following requirements apply to workstations in offices as well as for teleworking from home.

	Quality Criteria	Benefits
31.1	General requirements for office desks	
31.1.1	Irrespective of their type of construction, office desks shall be stable.	The stability of the desk shall be ensured even in the event of people leaning on or against the edge of the desktop.
31.1.2	Office desks shall be suitable for all office tasks.	This enables flexible use.
31.1.3	Office desks shall be suitable for working while sitting on an office work chair (see section 21). (See section 31.6 Dimensions)	Sitting reduces the stress on the hip, the knee and the foot joints.
31.1.4	Office desks shall have a height-adjustable work surface. It is beneficial to have a (tool-free) height adjustment that the user can set while he or she is using the desk. The height of the work surface of desks that are solely intended for activities to be performed while sitting and that are permanently assigned to a specific user can also be set by means of a height selection that generally requires the use of tools.	This enables the working height to be adjusted to the size of the user.
31.1.5	Optional: Office desks should be equally suitable for work performed while sitting as well as for work done while standing. This is best achieved by means of a height adjustment that enables users to work in either position (sit-stand desks). (See section 31.6 Dimensions)	Regular changes in posture prevent one-sided stresses, promote well-being, and thereby have a positive impact on people's performance. Sit-stand desks that allow the height of the entire or large parts of the work surface to be adjusted are a precondition for unrestricted use. Separate work surfaces at standing height allow individual activities to be carried out while standing. Units that are placed on top of the work surface are usually disadvantageous because they normally have too little room for setting up a monitor and other work equipment.

	Quality Criteria	Benefits
31.2	Requirements for the frame and the base structure	
31.2.1	It should be possible for both height adjustment and height selection of work surfaces to be stepless or at least in short grid increments. (See section 31.6 Dimensions)	The workstation can thus be adapted in small steps to the individual user's size.
31.2.2	The adjustment of the height of height-adjustable desks (see section 31.1.4) shall be possible using only a few simple hand moves and without requiring the work surface to be cleared for this purpose.	The working height can thus be changed quickly.
31.2.3	The free space underneath the desktop shall be of sufficient, height, width and depth. (See section 31.6 Dimensions)	The free space underneath the desk is a prerequisite so that the user has sufficient room to move and can take an ergonomically beneficial sitting position.
31.2.4	Impacts on the desktop shall not cause it to vibrate too strongly or for a long period of time.	This is important for using the desks without disturbance.
31.3	Requirements for the desktop	
31.3.1	Desktops shall be of sufficient depth. (See section 31.6 Dimensions)	For screen work, a viewing distance of at least 500 mm shall be maintained between user and screen, subject to the size of the screen.
31.3.2	Desktops should be available in different sizes (widths, depths and, if applicable, also shapes).	This enables the desks to be adapted to different uses.

	Quality Criteria	Benefits
31.4	Requirements for the functional expandability	
31.4.1	It should be possible to set up office desks as individual desks and for interlinking with other office desks to enable use as multi-area workstations.	This enables adaptation to different functional and spatial conditions.
31.4.2	<p>The work surface shall be expandable upwards into the so-called "third level", e.g., by means of</p> <ul style="list-style-type: none"> • organization trays with suspended paper management elements • Privacy screens to shield from view • elements for acoustic shielding • additions for folder shelves, pinboards and the like • shelf boards for technical equipment, workstation lighting, etc. 	<p>The "third level" enables all work equipment at the workstation to be arranged so as to be easily accessible, clearly structured and space-saving.</p> <p>As a privacy screen, it shields from other workstations and helps the user to concentrate on the task at hand.</p> <p>Acoustic shielding elements reduce acoustic disturbances.</p>
31.4.3	<p>Office workplaces should allow for expanding the work surface in width and depth and, possibly, for its subsequent return to the original state by means of, e.g.</p> <ul style="list-style-type: none"> • add-on elements (such as desk extensions for use in meetings while sitting or standing, shelves, etc.), • suspension elements for office and communication technology (PC mountings and the like) 	The workstations can be adapted to different requirements.
31.5	Requirements for the electrical equipment and integrated technology	
31.5.1	Individual and multi-space workstations shall enable electrical and data lines to be installed without restriction. It should also be possible to retrofit them.	The workstation is capable of satisfying the increasing technological requirements. Technical office equipment can be installed individually and so as to be easily accessible.

31.6 Dimensions



Dimension	Measuring points	Minimum requirements
a) Minimum adjustment/minimum setting range of the desk height for activities performed solely while sitting		650 to 850 mm
a) Minimum adjustment range for the desk height of sit-stand desks		650 to 1250 mm
b) Maximum desktop thickness (including the base structure)	At the desktop's front edge	55 mm
c) Maximum desktop thickness (including the base structure)	At a distance of 500 mm from the desktop's front edge	80 mm
d) Minimum height of foot clearance (unobstructed space for the feet above the floor)	600 to 800 mm from the desktop's front edge	120 mm
e) Minimum width of the desktop		1,600 mm (Permitted: 1,200 mm) ¹
e) Minimum depth of the desktop		800 mm
g) Minimum depth of the legroom underneath the desktop		800 mm
h) Minimum clear width of the legroom underneath the desktop		1,000 mm
Maximum height of the individual steps for height setting of height-selectable desks (for desks used to perform activities solely while sitting)		10 mm

1 If little work equipment is needed and only a single monitor is used.

32 Requirements for visitor tables and conference tables

See also the requirements for the basic conception of the products in chapter 1, the requirements for all types of office furniture (section 30) and the Bibliography at the end of this publication.

The quality requirements specified in the following refer primarily to individual tables intended to be used flexibly. This also includes compact table formats for short meetings as well as tables equipped with castors or with folding or collapsing mechanisms allowing for easy transportation or space-saving storage. Standing tables can also be used as visitor and conference tables – they are suitable for short meetings.

Note: Due to the heterogeneous nature of the possible uses for visitor tables and conference tables, the requirements concerning their dimensions can differ considerably. As a result, it is not useful to specify a general requirement.

	Quality Criteria	Benefits
32.1	General requirements for visitor tables and conference tables	
32.1.1	Irrespective of their type of construction, tables shall be stable.	The stability of the tables shall be ensured even in the event of people leaning on or against the edge of the tabletop.
32.1.2	Optional: The product range should encompass variants with a height-adjustable tabletop that allows users to switch between sitting and standing.	The flexibility of use is increased. Tables can also be used for short stand-up meetings.
32.2	Requirements for the frame and the base structure	
32.2.1	Table frames and legs shall be fitted so that all users can comfortably sit or stand at the specified places.	This enables flexible use.
32.2.2	Visitor tables and conference tables (without castors) shall be equipped with a height adjustment.	This enables compensation for any unevenness of the floor – in particular for table combinations.
32.2.3	Impacts acting on the tabletop shall not cause it to vibrate considerably or for a long period of time	This is important for using the tables without disturbance.
32.3	Requirements for the tabletops	
32.3.1	Tabletops should be available in different sizes (widths, depths and, if applicable, also shapes).	This enables the design to be flexibly adapted to different purposes of use.
32.3.2	The edges of tabletops should be protected against damage by edge veneers or comparable solutions.	Tabletops are thus protected when being set up side by side and doors and doorframes are protected when transporting the tables.

	Quality Criteria	Benefits
32.4	Requirements with regard to expandability	
32.4.1	Optional: Table-to-table connectors should be available.	They enable firmly connected temporary table arrangements to be formed.
32.4.2	Optional: Easily mountable table screens should be offered.	Users can thus obtain additional privacy and discretion.
32.5	Requirements for tables on castors	
32.5.1	If tables are equipped with castors, then at least two of the castors shall be lockable. The locking function shall be easily recognizable and locking and releasing shall be possible without having to bend down.	Locking the castors increases the safety of the users. Regular use requires clear labelling and easy operation.
32.6	Requirements for folding and collapsible tables	
32.6.1	Folding and collapsible tables shall be designed in such a way that setting them up or taking them down does not cause injuries as a result of e.g. sharp edges or shear and squeeze points. Shear and squeeze points are permissible if users have their movements under control and are able to immediately stop using force when they feel any pain.	A corresponding design ensures the safety of the people who are setting up the tables.
32.6.2	Suitable transportation or storage devices (e.g. transport trolleys) should be offered for folding and collapsible tables that lack castors.	This facilitates handling and ensures occupational safety when tables are rearranged.

33 Requirements for desks for mobile working from home

See also the requirements for the basic conception of the products in chapter 1, the requirements for all types of office furniture (section 30) and the Bibliography at the end of this publication.

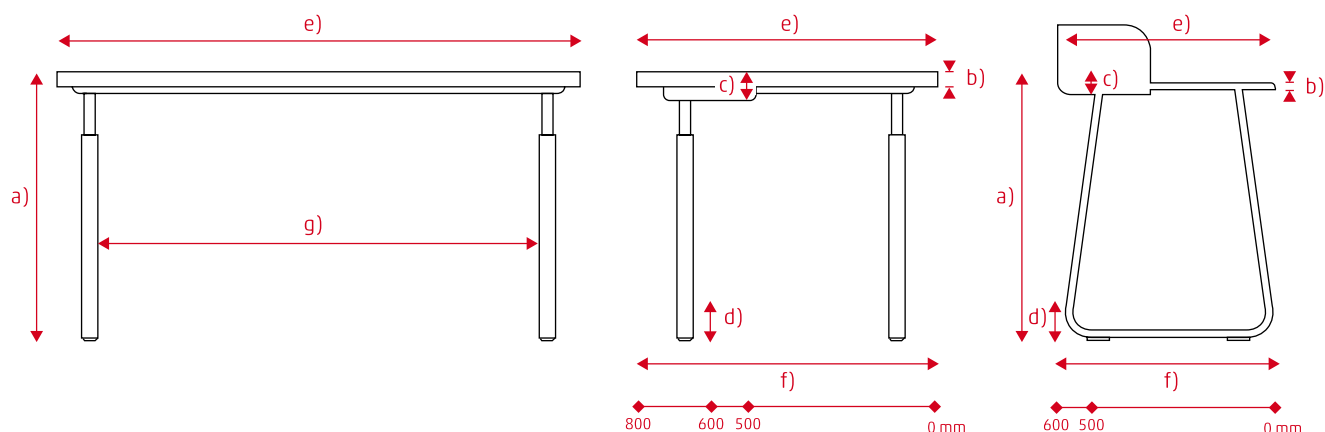
Mobile working is any kind of work away from the usual workstation. Users need a suitable workstation, in order to conduct mobile working from home. The requirements described below refer to desks for workstations for occasionally working from home.

It is recommended that people who frequently work from home use office desks from requirement category 31.

	Quality Criteria	Benefits
33.1	General requirements for desks for mobile working from home	
33.1.1	Irrespective of their type of construction, desks shall be stable.	The stability of the desk shall be ensured even in the event of people leaning on or against the edge of the desktop.
33.1.2	Desks shall be suitable for conducting work while sitting on an office work chair or a swivel chair for mobile working at home (see sections 21 or 23). (See section 33.6 Dimensions)	Sitting reduces the stress on the hip, the knee and the foot joints.
33.1.3	Optional: In addition to or instead of desks for sitting, models should be available that allow for adjustment of the working height from a sitting to a standing position (sit-stand desks). (See section 33.6 Dimensions)	Regular changes in posture prevent one-sided stresses, promote well-being, and thereby have a positive impact on people's performance.
33.2	Requirements for the frame and the base structure	
33.2.1	Desks shall be designed in such a way that users can comfortably sit and work there without bumping their legs against the base frame. (See section 33.6 Dimensions)	This is the only way that people can sit in a relaxed fashion and have enough legroom to move about.
33.2.2	Desk legs and other base frames shall be equipped with a height adjustment.	This enables compensation for any unevenness of the floor.
33.2.3	Impacts acting on the desktop shall not cause it to vibrate considerably or for a long period of time.	This is important for using the desks without disturbance.
33.2.4	Optional: The desks should be equipped with a height adjustment. (See section 33.6 Dimensions)	This enables users to bring the desktop to a height that is suitable for their work.

	Quality Criteria	Benefits
33.3	Requirements for the desktop	
33.3.1	The work surface shall be dimensioned in such a way that the users can, at the very least, put a laptop, a separate keyboard and mouse, and various documents there.	A sufficiently large work surface is a precondition for maintaining a healthy working posture and for efficient working.
33.3.2	Optional: Desktops should be available in different sizes and, if applicable, shapes.	This enables adaptation to different applications and spatial conditions.
33.3.3	The desktops should have rounded edges.	This prevents people from feeling uncomfortable pressure when laying their lower arms on the desk.
33.4	Requirements for desks on castors	
33.4.1	If desks are equipped with castors, then at least two of the castors shall be lockable. The locking function shall be easily recognizable and locking and releasing shall be possible without having to bend down.	Locking the castors increases the safety of the users. Regular use requires clear labelling and easy operation.
33.5	Requirements for folding and collapsible tables	
33.5.1	Folding and collapsible tables shall be designed so that neither setting them up nor taking them down can cause any injuries.	A corresponding design ensures the safety of the people who are setting up the tables.

33.6 Dimensions



Dimension	Measuring points	Minimum requirements
a) Desk height for fixed height		740 ± 20 mm
a) Minimum adjustment/minimum setting range of the desk height for activities performed solely while sitting		680 to 760 mm
a) Minimum adjustment range for the desk height of sit-stand desks		680 to 1,180 mm
b) Maximum desktop thickness (including the base structure)	At the desktop's front edge	55 mm (Permissible if there are additional functions: 70 mm) ¹
c) Maximum desktop thickness (including the base structure)	At a distance of 500 mm from the desktop's front edge	100 mm
d) Minimum height of of foot clearance (unobstructed space for the feet above the floor)	600 to 800 mm from the desktop's front edge	120 mm
e) Minimum dimensions for the desktop/work surface		1,200 × 800 mm (Permissible: at least 800 × 600 mm) ²
f) Minimum depth of the legroom underneath the desktop		800 mm (Permissible: at least 600 mm) ²
g) Minimum clear width of the legroom underneath the desktop		850 mm (Permissible: at least 600 mm) ²
Maximum height of the individual steps for height setting of height-selectable desks (for desks used to perform activities solely while sitting)		10 mm

1 The maximum height of the combined desktop and base structure at the desktop's front edge may, in exceptional cases, be increased to 70 mm if it is combined with the installation of additional functions such as the integration of a drawer.

2 The dimensions of the work surface and the width of the available legroom can be reduced as mentioned above if the desk is used only occasionally or for short periods and only a small amount of work equipment is used.

34 Requirements for office pedestals

See also the requirements for the basic conception of the products in chapter 1, the product-related requirements for office furniture (section 30) and the Bibliography at the end of this publication.

Personal storage space at the workstation is a key element of workstation design. pedestals are especially suitable for this. In addition to under-desk and side pedestals, which are often specifically allocated to a

workstation, many offices have mobile caddies. When equipped with appropriate upholstered lids, some pedestals can also be used as bench seating.

	Quality Criteria	Benefits
34.1	General requirements for office pedestals	
34.1.1	Office pedestals shall be stable. Tipping over shall be excluded by means of extension locks for the drawers, built-in counterbalances inside the cabinet or other technical solutions.	This ensures occupational safety at the workstation.
34.2	Requirements for the base structure	
34.2.1	Office pedestals should be available for delivery mounted on a base, on height adjustable feet or gliders and on castors.	This enables the pedestals to be used in various ways next to or underneath the office desk.
34.3	Requirements for the structure	
34.3.1	The design shall ensure that the sidewalls, back, top and bottom of the pedestals are structurally connected with one another so that they are resistant to torsion.	This provides for high stability and longevity.
34.4	Requirements for drawer runners and the internal organization	
34.4.1	Pedestals shall enable organising the contents by means of drawers of different heights that can be subdivided as required.	Thanks to the system of modules, drawers of different heights can be positioned within the pedestal so as to be easily visible and accessible.
	The drawers' heights as determined by the organizational means used (such as forms inserts, separating webs, hanging files etc.) shall be organized into a system of modules (height divisions).	The work equipment needed at the workstation are provided in an easily accessible and ordered manner.
34.4.2	Optional: Specialist staff should be able to adapt the pedestals' set of drawers within the system of modules.	The pedestals' setup can thus be adapted to new needs as required.
34.4.3	Pedestals should have a material tray (for writing utensils, paper clips, rulers and the like) that can be pulled out separately or easily taken out.	Such a tray enables direct access to utensils that are often or continuously in use.

	Quality Criteria	Benefits
34.4.4	All drawers shall be available for delivery with full extension or over extension (e.g. for card files, hanging files).	Drawers with full extension or over extension allow for unhindered access to all documents and utensil drawers. In the case of hanging files, such drawers are a precondition for access to the documents in the back row.
34.4.5	Drawers shall be securely fastened inside the pedestal so that they cannot fall out accidentally.	This ensures occupational safety at the workstation.
34.4.6	The drawer guide rails shall be covered along the sides.	Covered or inaccessible guide rails prevent injuries and soiling or damage to clothing.
34.4.7	The drawers shall open and close smoothly and with little noise.	This helps to reduce possible disturbances.
34.4.8	Optional: The noise made by the drawer front panel when closing the drawer should be damped.	
34.4.9	Optional: The drawers should be equipped with a self-closing system that responds when the drawer reaches a point a few centimetres away from the stop.	Closed drawers are flush with the front.
34.5	Requirements for handles, locks and fittings	
34.5.1	Optional: Instead of normal (protruding) keys, folding keys or other non-protruding lock systems should be available. Electronic locking systems can be used as an alternative.	This eliminates potential points of impact and greatly reduces or eliminates the risk of injury or the likelihood that the keys will break off.
34.6	Requirements for pedestals on castors	
34.6.1	Pedestals' castors shall be lockable (at least two).	Rollable pedestals are prevented from rolling away inadvertently.

35 Requirements for office cabinets and shelves

See also the requirements for the basic conception of the products in chapter 1, the requirements for all types of office furniture (section 30) and the Bibliography at the end of this publication.

Office cabinets and shelves are among the most versatile pieces of furniture for workstation design. In addition to their core function as storage spaces, office cabinets serve as room dividers, sound absorbers, counter bases and even as benches if their tops are appropriately upholstered. Cabinets can be placed in-

conspicuously or used as dominant design elements. In all cases, stability is a key precondition for a cabinet's unrestricted use.

Note: Some of the following criteria are not applicable to shelves.

	Quality Criteria	Benefits
35.1	General requirements for office cabinets and shelves	
35.1.1	Office cabinets and shelves shall be stable. For the evaluation, interior furnishings shall always be taken into account in the most unfavourable constellation for the respective situation. Stability can also be achieved by means of a connection with building elements or other cabinets. This must be noted in the user instructions.	This ensures occupational safety at the workstation.
35.1.2	Cabinet and shelf variants and systems within a product family shall be based on a uniform height module system. (Add-on modules, e.g. for plants, are not affected by this requirement.)	A consistent system of modules common to all variants of the cabinet increases its range of uses. Combinations will, due to the module kit, result in the same external heights and thus to a great design variety.
35.2	Requirements for the base structure	
35.2.1	Office cabinets should allow for being mounted on either a circumferential and fully load-bearing base or on legs.	Legs are favourable for air conditioning and floor cleaning, whereas closed bases allow for a better use of the available height and for point loads acting on the floor to be reduced.
35.2.2	Bases or legs shall be provided with levelling screws.	This enables to compensate for any unevenness of the floor and to ensure the smooth operation of roller shutters or drawer elements.
35.2.3	For cabinets on bases, the means for height levelling shall be accessible from the front or interior of the cabinet.	Even in a fully equipped and loaded state, cabinets shall permit subsequent adjustment at any time.
35.2.4	The levelling screws of legs and bases should be made from synthetic materials or from steel with a plastic coating enabling them to glide.	Plastic coated regulating screws are protected from moisture and the office floor is protected against damage.

	Quality Criteria	Benefits
35.3	Requirements for the structure and the front panels	
35.3.1	<p>The design shall ensure that the cabinet sidewalls, back panel, top and bottom shall be structurally connected with one another so that they are resistant to torsion.</p> <p>Open shelves without a back panel should be stabilized in another suitable way.</p>	This ensures high stability and extends longevity and useful life.
35.3.2	<p>Office cabinets should be available for delivery in different front panel designs, e.g.</p> <ul style="list-style-type: none"> • with wing doors • with horizontal shutters • with vertical shutters • with sliding doors • with drawer front panels • without front panels (as open shelves) 	This expands the variety of uses, the access options are improved and the space required is reduced
35.3.3	The fronts and backs of cabinets from a particular product family should form a formal unit and permit free combination, irrespective of the chosen front panel design and of the type of installation.	Cabinets can be installed freestanding and/or in combination, including in alternating order of the front and back panels.
35.3.4	The interior of office cabinets and shelves shall permit the utilization of the full width and shall not present any obstacles when putting in or taking out folders and pulling or pushing drawers or hanging frames.	A freely accessible interior is a precondition for the utilization of the entire interior.
35.3.5	Open wing doors shall not hinder direct access to folders.	
35.3.6	Wing door and roller shutter cabinets should also allow for the installation of frames or drawers for hanging filing systems in combination with folder shelves or lateral files.	Different office filings can be accommodated in combination with each other in the very same cabinet.
35.3.7	The internal height of hanging filing cabinets shall be subdivided into a system of modules (height parts) corresponding to the drawer modules' heights.	This enables fitting the cabinets with drawers (of different heights) and, possibly later on, for adaptation to changing requirements.
35.3.8	Optional: The impact noise caused when closing doors and drawers should be further damped by buffers.	This helps to reduce possible disturbances.

	Quality Criteria	Benefits
35.4	Requirements for the interior equipment and drawer runners	
35.4.1	Shelf carriers, frames for hanging filing systems and other organizational elements shall be suspended by simple and sound means of fastening. The interior equipment should remain organizable and changeable.	Office cabinets can be optimally arranged and changed and adapted in accordance with their intended use.
35.4.2	All extendible elements (drawer runner frames, shelves or drawers) shall have laterally hidden guide rails.	Covered or inaccessible guide rails prevent injuries and soiling or damage to clothing.
35.4.3	All extendible elements (drawer runner frames, shelves or drawers) shall be secured so that they cannot unintentionally disengage of the guide rails.	This ensures occupational safety at the workstation.
35.4.4	All extendible elements (drawer runner frames, shelves or drawers) shall glide smoothly and with little noise.	Noise pollution is reduced.
35.4.5	Shelves shall be secured against slipping out or tilting unintentionally.	The risk of injury by unsecured shelves is thus eliminated.
35.5	Requirements for handles, locks and fittings	
35.5.1	Optional: Instead of normal (protruding) keys, it should be possible to offer folding keys or other non-protruding lock systems. Electronic locking systems can be used as an alternative.	This eliminates potential points of impact and greatly reduces or eliminates the risk of injury or the likelihood that the keys will break off.
35.6	Requirements for the functional expandability	
35.6.1	Optional: Cabinet back panels should permit enhancement and formal adaptation by means of covers in different materials.	This enables the design of the cabinet and the interior design to be changed and adapted at any time.
35.6.2	Optional: The back and front sides of office cabinets should be available for delivery in a noise-absorbing version.	Freestanding office cabinets with acoustically improved back and front panels help to create agreeable room acoustics.

36 Requirements for pharmacy cabinets

See also the requirements for the basic conception of the products in chapter 1, the requirements for all types of office furniture (section 30) and the Bibliography at the end of this publication.

Pharmacy drawer systems combine their key function as storage spaces with the ability to serve as side demarcations for rows of workstations. They have one or more front drawers whose contents can be accessed from the sides when they are open. Im-

portant requirements for pharmacy drawer systems include easy opening of the drawers, high stability even when the drawers are opened and a low load on the floor.

	Quality Criteria	Benefits
36.1	General requirements for pharmacy cabinets	
36.1.1	The stability of pharmacy cabinets shall be ensured even when they are open while carrying a maximum load. Tilting shall not be possible.	Stability in every state of use helps to prevent accidents and damage to objects.
36.2	Requirements for the base structure	
36.2.1	Pharmacy cabinets shall be available for delivery with levelling elements.	This is beneficial for the smooth gliding of the drawer runner and helps keep the piece of furniture stable even if the floor is uneven.
36.2.2	Suitable measures shall be taken to prevent the pharmacy cabinet from inadvertently being moved (e.g. when a person leans on it).	This effectively reduces the risk of injuries or damage to floors.
36.2.3	Levelling elements for legs and bases should be made of materials that are not sensitive to moisture and that are suitable for protecting the floor against damage.	Plastic coated regulating screws are protected from moisture and the office floor is protected against damage.
36.3	Requirements for the structure	
36.3.1	The design shall ensure that the sidewalls, back panel, top, and bottom of the cabinet are structurally connected with one another so that they are resistant to torsion.	This ensures high stability and extends longevity and useful life.
36.3.2	The structure should be ventilated with the exhaust air directed downwards or towards the back.	Without such measures, the airflow will exit toward the front when the inner structures, which generally have a large volume, are closed. This airflow can be inconvenient for adjacent users. An appropriate design can prevent this. At the same time, properly dimensioned ventilation helps the drawer runner to glide smoothly without restrictions.

	Quality Criteria	Benefits
36.4	Requirements for the drawer runners	
36.4.1	All drawer runners shall enable users to fully access the entire storage space. This can be achieved by means of full extension drawer runners, for example. This is especially important for side drawers that are used as part of the interior furnishings.	This is a precondition for their safe and full use.
36.4.2	Loaded drawers may only sag marginally when they are open.	Sagging drawer runners restrict usability and can cause premature wear and tear to the furniture or damage the floor.
36.4.3	Optional: Different, replaceable organizational elements should be offered. For example: <ul style="list-style-type: none"> • compartments • material trays • lockable compartments for valuables • hanging files • drawers • filing boxes 	The interiors of the drawers can be adapted to different use requirements.
36.4.4	Organizational elements shall be safely secured on top of or inside the drawers.	This prevents them from inadvertently falling out or down and makes the product safer to use.
36.4.5	All pull-out elements shall operate smoothly. Great force must not be needed to open and close drawer runners even when they are loaded.	This enables the drawer runners to be easily opened and closed.
36.4.6	The guide rails of the drawer runners should be covered along the sides or be located outside the reach of the user.	Covered or inaccessible guide rails prevent injuries and soiling or damage to clothing.
36.4.7	The opening and closing of the drawer runners should cause as little noise as possible.	Noise pollution is reduced.
36.4.8	Optional: The stop noise of the drawer front made when closing the drawer should be muffled by means of suitable measures.	This can reduce possible disturbances to a minimum.

	Quality Criteria	Benefits
36.5	Requirements for handles, locks and fittings	
36.5.1	The shape and placement of the handles shall be appropriate for the load.	This makes it easier to open and close the drawers and thus improves the product's ergonomic quality and safety.
36.5.2	Optional: Pharmacy cabinets should be lockable.	As a result, pharmacy cabinets can also be used to store personal or confidential items.
36.5.3	Optional: Instead of normal (protruding) keys, folding keys or other non-protruding lock systems should be available. Electronic locking systems can be used as an alternative.	This eliminates potential points of impact and greatly reduces or eliminates the risk of injury or the likelihood that the keys will break off.
36.6	Requirements for the functional expandability	
36.6.1	Optional: Various add-on modules should be available for pharmacy cabinets. For example: <ul style="list-style-type: none"> • cover plates • screens • plant pots 	This greatly expands the design options for all of the office design.

37 Requirements for partitions

See also the requirements for the basic conception of the products in chapter 1, the product-related requirements for office furniture (section 30) and the Bibliography at the end of this publication.

Partitions should serve as visual and acoustic boundaries in order to shield individual workstations and working groups from one another and to form "islands" or flexible structures in rooms of greater di-

mensions. In this way, they help to protect people's health. At the same time, they serve as organizational means and interior design elements.

	Quality Criteria	Benefits
37.1	General requirements for partitions	
37.1.1	Partitions shall be stable, whether arranged as individual elements and/or in combinations.	This helps to ensure occupational safety and prevents accidents.
37.1.2	It should be possible for partitions to be arranged in different angular positions.	This allows individual workstations, smaller workgroups or larger areas within a room to be shielded from each other.
37.1.3	All system elements should be offered in a variety of materials, colours and decorative designs.	This creates a wide range of possibilities for office design.
37.2	Requirements for the base structure	
37.2.1	Foot brackets, foot plates or similar devices shall be designed to be flat and shall not present a risk of tripping.	This helps to ensure occupational safety and prevents accidents.
37.3	Requirements for the wall faces	
37.3.1	Partitions shall be available in different heights and for different uses, e.g. <ul style="list-style-type: none"> • for freestanding workstations (e.g. reception workstations) at approximately the height of a counter • as visual and, perhaps also, acoustic screens between workstations • to screen workstations and working groups from busy areas (e.g. traffic route, public zones, etc.). 	The variety of heights available for dividing a room enables needs-based planning and thus provides for protection from visual and acoustic disturbances without interrupting the individual communication relations more than is necessary.

	Quality Criteria	Benefits
37.3.2	Partitions shall be of modular construction and shall be available in different widths. Their dimensions shall be determined by the standard measures of other office furnishings (such as desks, counter cabinets, regular cabinets, etc.).	The variety of elements and their combination with other pieces of furniture enable rooms to be freely designed and workstations and working groups to be accommodated in a space-saving manner, if necessary.
37.3.3	Optional: It should be possible for partitions to be combined with cabinet elements, counter cabinets or shelf systems in different heights, widths and front designs.	
37.4	Requirements for the functional expandability	
37.4.1	Partitions should permit being equipped with different organizational elements and working aids (storage trays, small shelves, magnet rails etc.).	This enables important work equipment to be clearly arranged.
37.4.2	Partitions should allow for being supplemented by communication elements (such as flip charts, pin boards, tablets/whiteboards, projection surfaces, etc.).	This enables partition systems to be useful in various fields of application.
37.4.3	Optional: Partitions should be offered with supplemental top attachments that are easy to clean.	This expands the range of uses and enables existing partitions to be increased in height, if necessary.
37.4.4	Partitions should be available in a noise-absorbing version.	If noise is absorbed near its source, the sound-insulating effect of the partitions is increased.

Annex Bibliography

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EU directives

- European framework directive on occupational safety: Council Directive on the introduction of measures to encourage improvements in the safety and health of workers at work (89/391/EEC)
- European workplace directive: Council Directive concerning the minimum safety and health requirements for the workplace (89/654/EEC)
- European directive on display screen equipment: Council Directive on the minimum safety and health requirements for work with display screen equipment (90/270 EEC)
- European occupational safety and health directive: Directive of the European Parliament and of the Council concerning the minimum safety and health requirements for the use of work equipment by workers at work (2009/104/EC)
- European machinery directive: Directive of the European Parliament and of the Council on machinery and amending Directive 95/16/EC (recast) (2006/42/EC)
- European electrical equipment directive: Directive of the European Parliament and of the Council on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits (recast) (2014/35/EU)

German laws and regulations

- Working Conditions Act (ArbSchG)
- Workplace Ordinance (ArbStättV)
- Workplace Safety Ordinance (BetrSichV)
- Product Safety Act (ProdSG)
- Ordinance on Electrical Equipment – First Ordinance to the Product Safety Act (1. ProdSV)
- Machine Ordinance – Ninth Ordinance to the Product Safety Act (9. ProdSV)

DGUV regulations and information from the DGUV (German Social Accident Insurance)

- DGUV Regulation 1 "Principles of Prevention"
- DGUV Rule 115-401 "Office businesses sector"
- DGUV Rule 115-402 "Call Center sector"
- DGUV Informative publication 215-410 "Office and VDU workplaces – design guidance"
- DGUV Informative publication 215-441 "Office planning – assistance in the systematic planning and design of offices"
- DGUV Informative publication 215-442 "Lighting in offices, assistance in planning of artificial lighting in office areas"
- DGUV Informative publication 215-443 "Acoustics in offices – assistance in the acoustic design of offices"
- DGUV Informative publication 215-444 "Protection against sunlight in offices"
- DGUV Principle 315-410 "Safety Requirements for Office Work Tables, Office Cabinets and Upgradeable Room Dividing Elements in Germany"
- FBVW-402 "Office work from home – during and beyond the SARS-CoV-2-epidemic"

Practical guides from the accident insurance institutions

- VBG-Praxis-Kompakt „The agony of choice - how do I procure the right chair?“, issue date: 2020-12
- VBG-Info „Healthy working at the PC - Test your workplace“, issue date: 2020-10
- IAG CHECK-UP „Ergonomic work design in the home office“, issue date: 2021-01

Standards not related to a specific product

- DIN EN ISO 9241-5 “Ergonomic requirements for office work with visual display terminals (VDTs) – Part 5: Workstation layout and postural requirements”, publication date: 1999-08
- DIN EN ISO 10075-1 “Ergonomic principles related to mental work-load – Part 1: General terms and definitions”, 2018-07
- DIN 33402-2 “Ergonomics – Human body dimensions – Part 2: Values”, publication date: 2020-12

Standards related to a specific product

- DIN EN 1335-1 “Office furniture – Office work chair – Part 1: Dimensions – Determination of dimensions”, publication date: 2002-08
- DIN EN 1335-1 “Office furniture – Office work chair – Part 1: Dimensions – Determination of dimensions”, publication date: 2020-07
- DIN EN 1335-2 “Office furniture – Office work chair – Part 2: Safety requirements”, publication date: 2019-04
- DIN EN 16139 “Furniture – Strength, durability and safety – Requirements for non-domestic seating”, publication date: 2014-03
- DIN 4573 “Seatings for persons with a higher user weight – Safety requirements and test methods”, publication date: 2021-03
- DIN EN 527-1 “Office furniture – Work tables and desks – Part 1: Dimensions”, publication date: 2011-08
- DIN EN 527-2 “Office furniture – Work tables – Part 2: Safety, strength and durability requirements”, publication date: 2019-07
- DIN EN 15372 “Furniture – Strength, durability and safety – Requirements for non-domestic tables”, publication date: 2017-02
- DIN EN 14073-2 “Office furniture – Storage furniture – Part 2: Safety requirements”, publication date: 2004-11
- DIN EN 14073-3 “Office furniture – Storage furniture – Part 3: Test methods for the determination of stability and strength of the structure”, publication date: 2004-11
- DIN EN 14074 “Office furniture – Tables and desks and storage furniture – Test methods for the determination of strength and durability of moving parts”, publication date: 2004-11
- DIN EN 1023-1 “Office furniture – Screens – Part 1: Dimensions”, publication date: 1996-05
- DIN EN 1023-2 “Office furniture – Screens – Part 2: Mechanical safety requirements”, publication date: 2001-01
- DIN EN 1023-3 “Office furniture – Screens – Part 3: Test methods”, publication date: 2001-01

Acoustics: Standards and guidelines

- DIN 18041 "Acoustic quality in rooms – Specifications and instructions for the room acoustic design", publication date: 2016-03
- DIN EN ISO 11690-1 "Acoustics – Recommended practice for the design of low-noise workplaces containing machinery – Part 1: Noise control strategies", publication date: 2021-04
- DIN EN ISO 11690-2 "Acoustics – Recommended practice for the design of low-noise workplaces containing machinery – Part 2: Noise control measures", publication date: 2021-04
- VDI 2569 "Sound protection and acoustical design in offices", publication date: 2019-10

Lighting: Standards

- DIN EN 12464-1 "Light and lighting – Lighting of work places – Part 1: Indoor work places", publication date: 2021-11
- DIN 5035-6 "Artificial lighting – Part 6: Measurement and evaluation", publication date: 2006-11
- DIN 5035-8 "Artificial lighting – Part 8: Workplace luminaires – Requirements, recommendations and proofing", publication date: 2007-07

Environment and sustainability: Standards and guidelines

- DIN EN ISO 14001 "Environmental management systems – Requirements with guidance for use", publication date: 2015-11
- VDI 2243 "Recycling-oriented product development", publication date: 2002-07

Other

- Electrical installations in office furniture - Compilation of recognised rules (guideline), Berlin: Beuth-Verlag, publication date: 2018-06

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