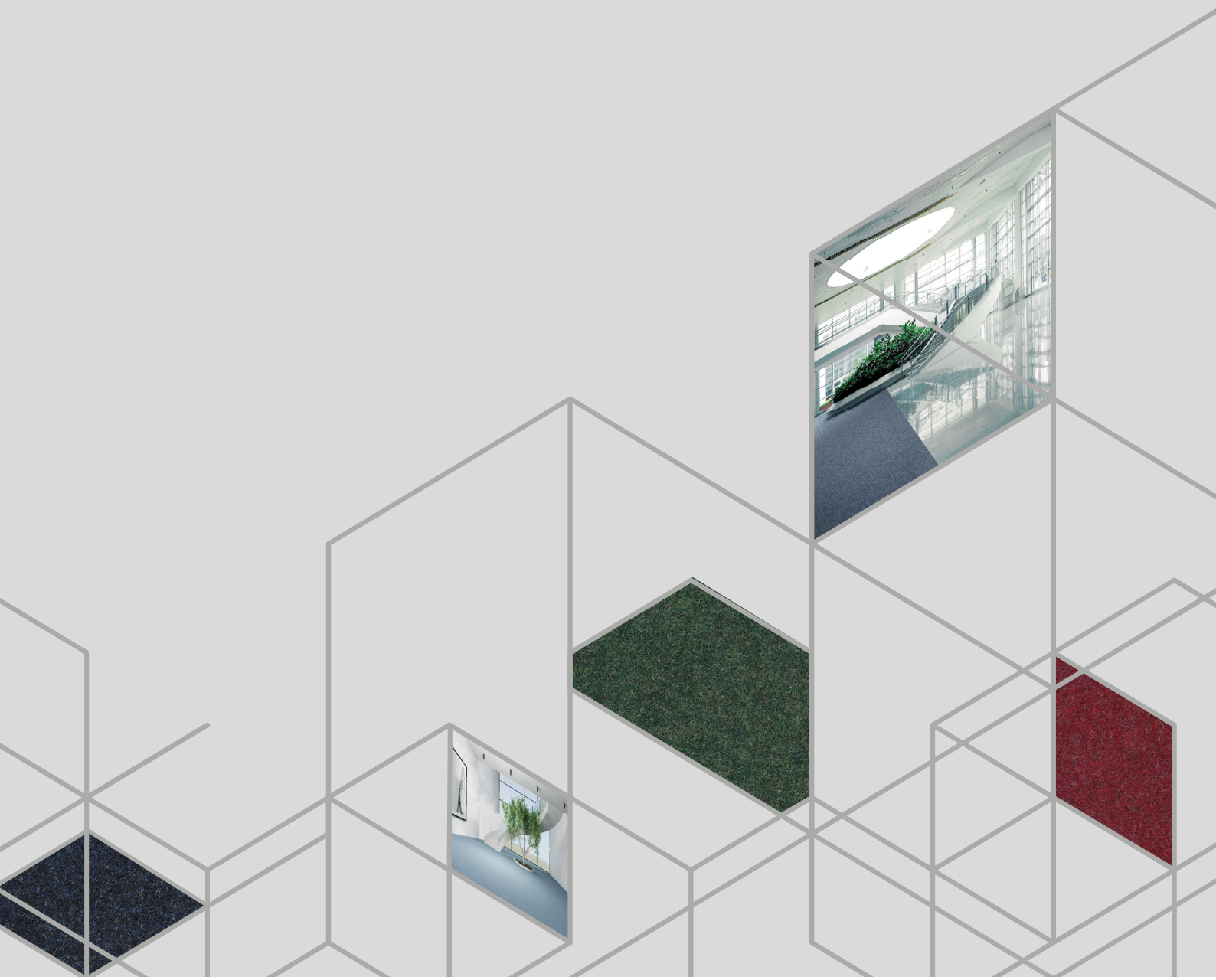
Strong Objekt

Installation Instructions for Rolls and Tiles



VEBE
COVERING IT ALL SINCE 1946

Foreword

Congratulations! You are now the proud owner of VEBE Strong Objekt needle felt carpet. To obtain the best possible results, our aim in the following pages is to inform you of the latest appropriate and professional approaches for installing needle felt carpet. With the publication of these installation instructions for VEBE needle felt carpet, issue September, 2023 all previous issues are superseded.

Introduction

Needle felt carpet from VEBE is subject to a thorough quality check, thus ensuring a high quality standard. In selecting the product, the level of loading and the necessary additional qualifications must be considered. The information in the following installation instructions is of general nature. This recommendation serves as an explanatory aide for the layer and does not claim to be complete. Our information is based on experience, general rules and the current state of the art. The information in these installation instructions is binding and does not replace contrary recommendations of auxiliary material suppliers. All materials must be matched to each other so that a functional design can be ensured. No negative influences must impair the surface quality. We have no control over correct installation, therefore no guarantee is provided for the outcome of installation.

1 Preparation

1.1 Material Check

Consignments of needle felt carpet from VEBE are always taken from the same production batch, which ensures the uniform colouring of the material. However, slight colour deviations cannot be entirely ruled out. To achieve an even product appearance, it is important to lay material from the same batch and from ascending roll numbers in each room. As part of your obligation to carry out an inspection and exercise a duty of care, and your notification obligation, doubts about the intended way in which the installing work is to be carried out must be reported before work starts. At the point of goods receipt, any possible damage must be noted on the shipping documents. The batch numbers must always be checked. Prior to cutting or installation, the goods must be checked in respect of ordered quality, uniform colouring and freedom from defects as well as the dimensional accuracy in respect of length and width. Any claim for apparent defects is excluded after cutting or any other processing of the supplied goods. However, should you identify a possible defect, please immediately contact your supplier, before you start the installation process. No complaints will be accepted that were not notified prior to installation.

1.2 Material Storage

Correct storage of the carpet in its original packaging preserves the product properties required for trouble-free installation. Therefore, always store the carpet in cool, dry rooms on an even

floor. An interior climate of at least 18°C and not more than 65% relative humidity is recommended. Never store needle felt carpet in boiler rooms.

1.3 Acclimatisation

Before installation, it is essential that the needle felt carpet completely adapts to the ambient conditions. For this reason, the carpet should be rolled out on the floor of the room where it will be laid and allowed to acclimatise at a room temperature no lower than 18°C for at least 24 hours. The relative humidity must not exceed 65%. Ideally, the climatic conditions during the installation process should be identical to the usual conditions after the installation. The recommended air humidity is between 40% and 60%. These conditions shall be maintained for 3 days before and at least 7 days after completion of the installation.

2 Subfloors – Inspections - Underlays

2.1 Subfloor

Needle felt carpets from VEBE can be laid in many areas on a wide range of subfloors. The most important factor is the correct preparation of the subfloor, because it is decisive in achieving the optimum appearance and performance of the finished floor. In accordance with best practice for the trade, suitable subfloors are level, solid, crack-free and permanently dry. The German standard DIN 18365 “Flooring works” is of utmost importance when it comes to the assessment of subfloors. Moreover, the information sheets provided by the expert committees of the flooring industry must be considered. Especially the data sheets of the “technical commission for construction adhesives within the industrial association for adhesives” TKB (Technischen Kommission Bauklebstoffe im Industrieverband Klebstoffe e.V.), available under www.klebstoffe.com. As well as the leaflet “Assessing and preparing subfloors; installation of elastic and textile floor coverings, laminated elements (laminate), parquet and wooden paving; heated and unheated floor structures”, published by Bundesverband Estrich und Belag e.V. (Screeding and Surfacing Association). Leaflet TKB-8 “Assessing and preparing subfloors for floor coverings - and parquet work”, prepared by the Technischen Kommission Bauklebstoffe (TKB) im Industrieverband Klebstoffe e.V. (technical commission for construction adhesives within the industrial association for adhesives -TKB) Düsseldorf. According to the test criteria laid down in DIN 18365, doubts must be reported to the customer if:

- deviations in angle and evenness of the subfloor are greater than permissible according to DIN 18202,
- the subfloor is cracked,
- the subfloor is insufficiently dry according to the German standard series DIN 18560,
- the surface of the subfloor is not solid enough, too porous or too rough,
- the surface of the subfloor is soiled, e.g. by oil, wax, or residues of paint, mortar and plaster,
- the level of the subfloor surface is incorrect relative to that of adjacent surfaces or structural components,
- the temperature of the subfloor is inappropriate,

- the indoor climate is inappropriate,
- there is an underfloor heating system without any markings of the measuring points,
- underfloor heating system without any heating log,
- the perimeter insulation strips do not protrude.

Subfloors, especially new screeds, must have dried out sufficiently before any floor covering is installed. To ensure this, appropriate measurements must be performed using a CM device as close as possible to the installation of the floor covering. For normal screed thickness, i.e. not significantly greater than the minimum requirements of DIN 18560, the following experience-based values apply for the residual moisture contents:

Screed	Not heated	With underfloor heating
Cement screed	2,0 cm %	1,8 cm %
Magnesia screed	1,0 – 3,5 cm %	
Calcium sulphate / calcium sulphate floating screed	0,5 cm %	0,3 cm %

In most cases, subfloors must be prepared mechanically, for example by grinding and thorough cleaning using an industrial vacuum cleaner. Then, proper and professional pre-treatment takes place where the subfloor is treated with primers and putty. Dense and non-absorbent subfloors (e. g. mastic asphalt screed, chipboard or coatings) should be covered with a layer (at least 2 mm) of low-stress ground before the needle felt carpet is glued to it. For detailed product information, please refer to the flooring product manufacturer.

Old subfloors with glue and/or grout residues must always be treated with great care. Old coatings should always be removed entirely, since they could interact with any applied materials. Special instructions apply where renovation work involves “solvent-containing old glues" such as synthetic resin, etc. Creation of a barrier according to the material supplier specifications is recommended, otherwise there may be significant reactions between "old" and "new" materials. Consultation with the technical departments of the flooring product manufacturer is highly recommended before preparing such problematic subfloors. Low-emission products, standard-conforming installation conditions and perfectly dry subfloors, primers and fillers are required to ensure optimum interior air quality after any floor covering work.

2.2 Carpet Underlays According to DIN 14499

When installing needle felt carpet in object areas and private areas, we strongly advise against installing any additional underlays. If installed on heated floors, underlays significantly reduce the heat transfer, which must also be taken into account during the planning process. The following points must be considered when using underlays:

- The underlay must not affect the properties of the needle felt carpet in any negative way. This applies in particular to areas where castors (office chairs, furniture) are used. Here though, it goes without saying that pressure marks caused by chair legs, table feet and similar objects

are inevitable. The limits of the mechanical properties of the needle felt carpet must not be exceeded.

- The subfloor must be tested and prepared as described in section 2.1, even if underlays are fitted. The same criteria apply e. g. in respect of dryness, subfloor stability, etc.
- Both the underlay and the needle felt carpet must always be glued fully over their entire surface. In case of doubt, test pieces shall be laid in advance.
- It should be noted that underlays are normally non-absorbent, which must be taken into account when selecting and applying an appropriate glue.
- Where conducting floors are concerned, underlays must not impair electrostatic discharge.
- The planning approval of the needle felt carpet in respect of fire safety may be nullified by the installation of underlays. The specialist planner must allow for this during the planning phase. Additional combination checks may be required.

3 Installation

Installation should be performed by a specialist company. In this context, the provisions of DIN 18365 "Flooring works" as well as best practice of the trade should be complied with.

3.1 Interior Climate

The interior climate conditions significantly influence the outcome of the installation process and are therefore of crucial importance. The specifications of DIN 18365 "Flooring works" require a minimum floor temperature of 15°C, a minimum air temperature of 18°C and a maximum relative air humidity of 75%. The recommended optimum conditions for installation Strong Objekt needle felt carpet are room temperatures between 18°C and 22°C and air humidity levels of 40% to 65%. To achieve the best possible results, these conditions should be maintained three days before and seven days after installation. Needle felt carpet from VEBE is suitable for use with underfloor heating systems. During installation, the surface temperature of subfloors with an underfloor heating system must remain between 18°C and 22°C.

3.2 Direction of Installation

According to DIN 18365 "Flooring works", the direction of installation can be selected by the contractor. The reverse side of any VEBE needle felt carpet is marked with an arrow, which is to ensure that the laying direction of the material is consistent. If the material is installed over underlay, the joints and seams of the upper coating and underlay must be offset from each other.

3.3 Measurement and Determining of Requirements

3.3.1 Rolls

To determine the rolls requirement, the required sheet lengths and widths must be determined. Therefore the direction of laying must be determined prior to measuring. Head seams are only

permissible for roll lengths longer than 5 m, where any approach length must be at least 1 m. Rolls that run up to door openings, alcoves or similar must cover these areas. Side door openings, alcoves, etc. can be laid with strips.

3.3.2 Tiles

In general tiles are laid with cross joints. Laying with both parallel and diagonal joint arrangements is possible. For measurement, the area to be laid is determined with an allowance for cutting waste based on experience. The waste is greater for diagonal laying than with parallel laying and greater for angled and round surfaces than for straight surfaces.

3.3.3 Stairs

Stair carpet is cut from rolls. The requirement is calculated from the number of stairs that can be cut from one roll. For spiral staircases templates can also be fabricated. The stair edges should have a radius of at least 1 cm; in this way, the covering can be glued to the stair edge with suitable glue.

3.4 Cutting

The textile material must always be cut in a dry condition before it is glued. To do so, the material is to be arranged parallel to each other with an overlap of around 3 to 5 cm. Then a vertical double seam cut is to be performed along a steel rail via a box cutter. It is not permissible to simply join uncut edges of the material together. Different approaches may lead to open seams and must therefore be avoided. In case of floorings with inlays, the individual elements are to be cut separately using a steel rail. A strip cutter may be used if necessary.

3.5 Adhesives

Needle felt carpet laid in rolls must always be fully glued. For this purpose, only products recommended by the respective manufacturer of adhesives for this specific flooring type must be used. The applied adhesives must be solvent-free, labelled with an EMICODE classification EC1Plus "very low emission" by the Association for the Control of Emissions in Products for Flooring Installation, Adhesives and Building Materials e.V. (Gemeinschaft emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e. V. – GEV) (www.emicode.com) and/or be in accordance with the guidelines of RAL UZ113 "Blue Angel" ("Blauer Engel"). In addition to the acknowledged best practice, the technical data sheets as well as the safety data sheets of the manufacturer must be complied with regarding the application of the adhesives. The adhesive as well as all other materials must be acclimatised before use. The amount of glue and the appropriate trowel notch size require particular attention. B1, B2 and B3 are the most commonly prescribed trowel notch sizes (see TKB data sheet no. 6 – "Trowel notch size"). Since trowel notches are subject to wear, to ensure a constant and correct amount of adhesive, trowels must to be replaced in good time, depending on the degree of wear. Checks must be performed to ensure the back of the flooring material is completely covered with adhesive.

List of Manufacturers

ARDEX GmbH	www.ardex.de
Bostik GmbH	www.bostik.de
Kiesel Bauchemie	www.kiesel.com
Mapei GmbH	www.mapei.de
Schönox GmbH	www.schoenox.com
Thomsit Fußboden Technik	www.thomsit.de
UZIN UTZ AG	www.uzin-utz.com
Wakol GmbH	www.wakol.com
WULFF GmbH	www.wulff-gmbh.de

The named manufacturers represent just a few of the many adhesive manufacturers. Contact the adhesive manufacturers directly for the recommended adhesives.

3.6 Gluing

The middle sheet is always glued first. The arranged and cut needle felt carpet sheets are folded back to the middle of the room. Those roll halves that are to be laid tightly against adjacent areas such as door thresholds or frames must be glued first. The next step is to evenly spread the adhesive over the uncovered area using the prescribed notch trowel. It is important to avoid double layers of adhesive in the adjacent area of the remaining sheets. For this reason, the next adhesive application must be applied precisely up to the line of the preceding adhesive application. The floor covering sheet is to be laid into the adhesive bed without air pockets and allowing for the airing time, especially the open time, prescribed by the manufacturer. Winding ends must be bent in the opposite direction. It may be necessary to lay weights onto the top ends or seams until the adhesive sets. Immediately after laying the needle felt carpet on the adhesive, the sheets must be worked with a roller (at least 50 kg). This is the only way to ensure sufficient wetting and adhesive bonding. The areas close to the seams require particularly careful treatment. After bonding, rubbing using a hammer or similar metallic objects, which could generate friction heating, must be avoided. The friction heating can, especially with needle felt carpets, result in light, white streaking. These are difficult to remove and impair the surface appearance. Repeat the full-surface rolling after a short interval (about 15-30 minutes).

3.7 Fixation

Due to their construction, needle felt tiles are self-laying and do not require full-surface bonding to function. One advantage of fiber fleece tiles is their durability, which also makes them suitable for use in raised floors. This means that needle felt tiles are held only weakly by a special fixation and are therefore prevented from slipping. Because of this function, needle felt tile fasteners are also known as slip brakes. Fiber fleece tile fasteners are pasty and, when dry, form an elastic film with a specific, weak adhesion to fiber fleece tiles.

The weak fixation of the needle felt tiles on the dried film of the needle felt tile fixation prevents the tiles from slipping in the cross joint bond. At the same time, they can be recovered and reused easily and non-destructively, without the subsurface having to be renovated.

The fiber fleece tile fixing must be applied undiluted with a suitable foam roller, taking into account the information provided by the laying material supplier in the product data sheet, especially with regard to the areas of application as well as drying and laying times. Under this condition, a secure fixation of the needle felt tiles on the substrate is guaranteed while at the same time being able to withstand good loads. .The use of a "fur roller" is not permitted.

With raised floor systems, care must be taken to ensure that the liquid fixing does not get between the individual raised floor panels, as this would cause the panel edges to stick together and make it more difficult to attach individual raised floor panels. This can be prevented by taping off the joints or attaching the fastening panels one after the other.

Before laying the needle felt tiles, the applied fixing must be completely dry to prevent the covering from sticking permanently. Placing the tiles too early leads to a strong adhesive bond instead of the anti-slip effect and can lead to damage to the fleece tiles if they are inserted again.

he named manufacturers represent just a few of the many adhesive manufacturers. Contact the adhesive manufacturers directly for the recommended adhesives.

4 Installation

4.1 Rolls and Seam Cutting

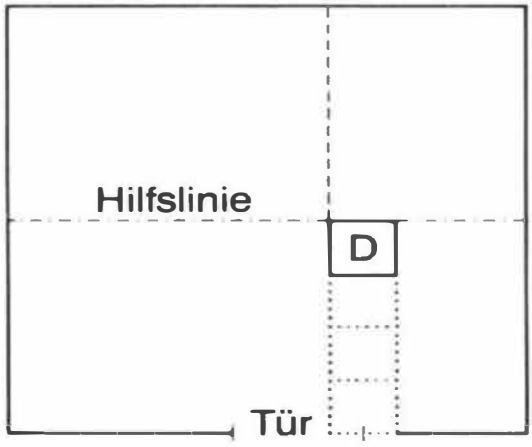
Seam cutting must be performed before gluing. Seam cuts in the adhesive bed are designated unprofessional and incorrect because they can result in "open seam areas". The rolls are laid out and overlapped by 3-5 cm. The overlying carpet edges are cut along a rolled-steel straight edge using a hooked or straight vertically aligned blade in one step. According to best practice, the laying against each other of the original edges is deemed non-execution and thus incorrect.

4.2 Tiles

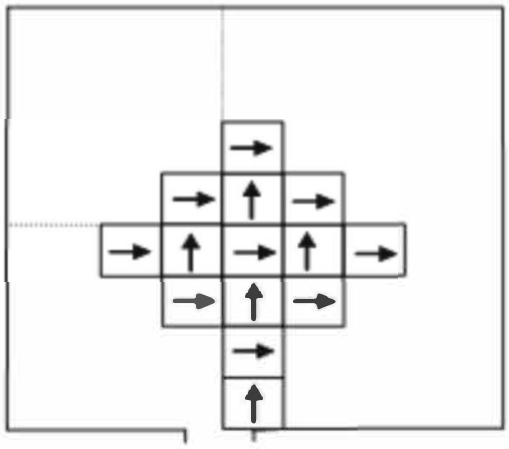
When dividing tiles over the area to be laid, it must be borne in mind that when strips are laid along the walls, they must be at least 10 cm wide.

4.2.1 Parallel Installation

Before installation, a parallel is defined to the main front edge of the room using a chalk line. The distance to the wall is a multiple of the board size minus about 1 cm, but at least 10 cm. In halls or corridors, rather than from the wall, this measurement can also be taken from the deepest door threshold. The start point is marked on the determined line.



Arrangement of the first line of tiles parallel

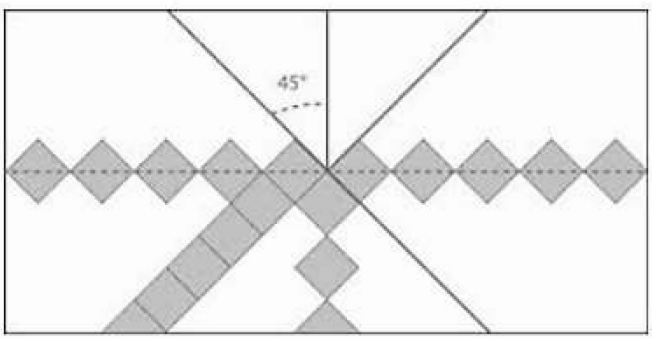


chess board laying of tiles

The layout must be such that at points which are immediately seen by the eye, e.g. the main entrance, only complete tiles are laid and there are no narrow strips. Extending from the start point, a row of tiles is laid out loosely along the chalk line and weighted down with stacks or boxes of tiles. In large rooms, this row of tiles is left in place until the adjacent area is laid. In small rooms it suffices to leave one tile as a reference point.

4.2.2 Diagonal Installation

First the room is symmetrically divided and the room axis defined by a chalk line. Next it is determined how the tiles would lay out at the walls and main entrance. The diagonal of a tile is equal to the length of the tile x 1.4. Now if the result here would be small triangles, the room axis is moved sideways by a distance equal to a quarter of the diagonal. The same is true for the starting point. In non-symmetric rooms, a chalk line is used to mark parallels at a distance to the main front, which is equal to a multiple of the tile diagonal minus approximately 1 cm. Here too it should be borne in mind that at the main entrance the tiles should be nearly full with half tiles between them and that under no



circumstances should there be small triangles. Then a double row of tiles is laid loosely along the chalk line, with the first row of tiles having the opposing corners of the tiles along the chalk line and second line having the tiles contacting the line on one corner. In large rooms, a diagonal row of tiles is laid out from the start point and used as a baseline for laying. In small rooms it suffices to leave one tile as a reference point. The edge tiles are cut with a hook or straight-edge blade.

4.2.3 Edge Cutting of the Tiles

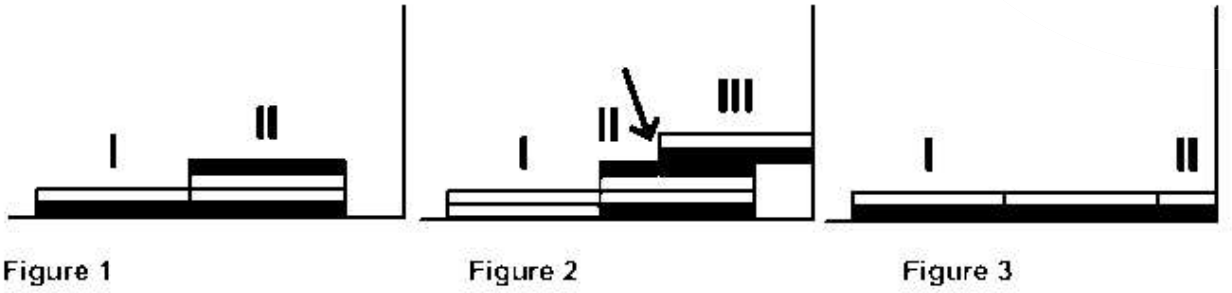


Figure 1 Figure 2 Figure 3

Figure 1 - Lay carpet tile "II" with the underside facing upwards on the last whole carpet tile.
Figure 2 - Lay carpet tile “III” on carpet tile "II", whereby carpet tile “lII” lies at the side of the room. Then cut carpet tile “II” along the side of carpet tile “III” (which serves as a straight edge).
Figure 3 - Lay the cut carpet tile "II" in the space.

5 Conductive Installation

In this installation approach, a conducting needle felt carpet is laid on a conductive system, which can be incorporated via the equipotential bonding system in the auxiliary electrical protective measure. In rooms in which the relevant guides of the trade association do not apply, connections, e.g. to the earth conductor, are possible. The earthing of the conductive floor covering must be performed by an electrician. Adhesive type and conducting system must be queried either directly with the adhesive manufacturer or with VEBE, Consulting Service Tel: 0151-65073523. It is important that the adhesive used with rolls or as a slip preventer with tiles, does not adversely affect the conductivity of the floor covering. Frequently used conductive systems are:

5.1 Installation on Copper Strips

A continuous copper strip must be routed under each module series or floor covering web. The copper strips must be cross-connected by two strips at the covering ends. Connection points for connecting to the equipotential bonding system must be provided at two locations in the room, more locations for larger rooms (greater than 40 m²).

5.2 Installation on a Conductive Layer

Conductive screed is applied according to the processing guidelines of the manufacturer. An approximately 1 m long piece of copper strip is glued at the intended connection point. Please consult the material supplier before use. Frequency of connection points: Connection points must be provided at two locations in the room - more locations for larger rooms (greater than 40 m²). The greatest distance to an earthing point must not exceed 10 m.

6 Raised Floors

On a raised floor the modules must be laid offset to the joints of the raised floor elements. This results in optimum cover. When applying the fixings, it must be ensured, that they do not enter the joints of the raised floor. If necessary the joints must be masked off.

7 Cleaning and Maintenance

The contractor must give the customer written care instructions for the floor covering in accordance with DIN 18365 Section C Paragraph 3.1.4. The following document is available free of charge: Cleaning and Maintenance Instructions for Rolls and Tiles.

8 Special Notes

8.1 Office Chairs

If office chairs are used on the needle felt carpet, they must be equipped with hard castors (type H according to DIN EN 12529) of appropriate sizes. In case of heavier loading, it is advisable to use plastic floor protection mats to prevent wear marks and visually obvious deterioration.

8.2 Cleaning Zone

Immediately after installation a carpeted floor must be protected against the ingress of dirt by setting up sufficiently large cleaning zones in entrance areas and problem zones (change from hard floors to textile covering/from production to the administration area, etc.). Optimum success will be achieved by installing coarse and fine dirt trapping mats. It is advisable that users carry out at least two to three steps lengths on the dirt trapping zones. Experience has shown that about 90% of the brought-in dirt is retained by a dirt trapping zone with a length of about five metres.

8.3 Background Information

Depending on the interior climate, the specific material and fibre design of the floor covering may lead to shrinking and/or expansion behaviour. At relative air humidity levels greater than 70%, the flooring expands. At relative air humidity levels below 40%, the flooring begins to dry out and shrink resulting in internal stresses or web stresses.

In the presence of such unfavourable room climatic conditions, we recommend an “in-situ” trial gluing. It may be necessary to express your reservations to the owner/customer within the framework of the testing and notification obligations if an unfavourable interior climate is expected in the long term.

8.4 Adhesive Tapes

If adhesive tapes are used on the covering, please check the compatibility with the respective manufacturers.

8.5 Considerations after Completion of the Flooring Work

Once the flooring work is completed, the needle felt carpet must not be used for at least 24 hours to prevent damage or displacement. Moreover, it must be ensured that the floor is protected against sunlight, radiation from heat sources and high levels of circulating air. Under no circumstances must the finished laid surface be covered by diffusion-retarding foils or similar because the evaporation of the dispersion adhesive would be impaired.

8.6 Disposal

Small quantities can be disposed with residual waste. Larger quantities should be disposed of via a recycling centre/bulky waste.

9 Support

This installation instruction is available for download via our website www.strongobjekt.com. Also available here are our cleaning and maintenance brochures as well as other information for download.

10 Warranty

The above information, especially the suggestions for processing and use of our products, is based on our knowledge and practical experience. Due to the different materials and the working conditions over which we have no control, we recommend that, in case of doubt, adequate independent tests are performed. We expressly point out that our installation instructions are not a legally binding assurance and therefore we cannot assume any warranty or guarantee. A transfer of liability on the part of VEBE cannot be derived from this recommendation.

Strong Objekt

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