

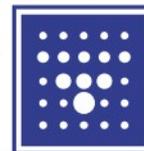
VEBE
FLOORCOVERINGS

Laying instruction Needle felt carpet

Edition: 01/2018

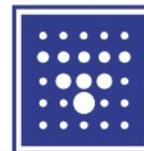


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Introduction

Congratulations! You are now the proud owner of a product by Condor Group.

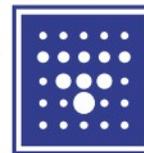
In order to obtain the best possible result, the following instruction seeks to inform you about appropriate and professional approaches to lay your Condor Group needle felt flooring.

For vinyl-back textile floorings, please visit

www.condor-group.eu/downloads

for our separate in-depth laying instruction.

This version of our laying instruction for needle felt floorings by Condor Group replaces all preceding editions.



1. Preparation

1.1 Material check

Before starting to lay the needle felt flooring, the material is to be checked for possible manufacturing defects (colour differences, structural errors, dimensions) or transport damages. As a result of the packaging process, storage and transport, the flooring material may be slightly dented. It usually doesn't take the fibres long to recover, so that this effect will disappear within a few hours.

Consignments of needle felt floorings by Condor Group are always taken from the same production batch, which ensures the uniform colouring of the material. However, slight colour deviations cannot be ruled out entirely. In order to achieve an even product appearance, it is important to lay material from the same batch and from ascending roll numbers in each room.

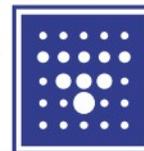
If you discover a different possible defect, please do not process the material and contact your supplier immediately. We cannot accept any complaints occurring before the laying process.

1.2 Material storage

Correct storage of the flooring material preserves the product properties required for unproblematic laying. Therefore, please make sure to store the flooring in cool, dry rooms with even grounds. An interior climate of at least 18°C and not more than 65% relative humidity is recommended. Never store needle felt floorings in boiler rooms.

1.3 Acclimatisation

Before the laying process, it is highly important for the needle felt to completely adapt to the ambient conditions. For this reason, the flooring material is to be rolled out on the floor of the room where the material will be installed. The needle felt will then have to acclimatise at a room temperature not lower than 18°C for at least 24 hours. The relative humidity shall not exceed 65%. In an ideal situation, the climatic conditions during the laying process are identical to the usual conditions after the installation. The recommended air humidity lies between 40% and 60%. These conditions are to be maintained 3 days before and at least 7 days after completion of the installation.



2. Subfloors / examinations / underlays **VEBE**

2.1 Subfloor

Needle felt floorings by Condor Group may be installed in many different areas and on various grounds. The most important factor is the correct preparation of the respective subfloor as it widely determines the presentation and performance of the final floor. Suitable subfloors must be in accordance with the professional rules, which means they must be solid, without cracks 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 are to be considered, especially the data sheets of "Technische Kommission Bauklebstoffe im Industrieverband Klebstoffe e.V." (technical commission for construction adhesives within the industrial association for adhesives - TKB), which are available under www.klebstoffe.com.

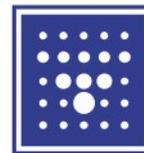
According to the test criteria laid down in DIN 18365, doubts must be reported to the client if:

- the angles and evenness of the subfloor are subject to greater deviations than permissible according to DIN 18202,
- the subfloor is cracked
- there is not enough dry subfloor 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 not in accordance with that of adjacent surfaces or structural components,
- the temperature of the subfloor is inappropriate,
- the indoor climate is inappropriate,
- there is a heated floor construction without any markings of the measuring points,
- there is a heated floor construction without a heating protocol,
- the perimeter insulation strips do not protrude.

Subfloors, especially new screeds, must have dried out sufficiently before any flooring is installed. In order to ensure this, the corresponding measurements must be performed by means of a CM device shortly before the installation of the flooring material. The maximum residual moisture contents below are valid at the moment:

	Subfloor without heating	Subfloor with heating
Cement screed	2.0 CM-%	1.8 CM-%
Calcium sulphate screed / floating calcium sulphate screed	0.5 CM-%	0.3 CM-%

In most cases, subfloors must be prepared mechanically, for example by grinding and thorough cleaning by means of an industrial vacuum cleaner. In a second step, the subfloor is treated with primers and putty. Dense and non-absorbent subfloors (e. g. mastic asphalt screed or coatings) should be covered with a layer (at least 2 mm) of low-tension putty before the needle felt flooring is glued to it. For detailed product information, please refer to the flooring product manufacturer.



Old subfloors with glue and/or putty residues must always be treated with great care. Old coatings should always be removed entirely, since they may interact with any applied materials. It is highly recommended to consult the technical departments of the flooring product manufacturer before preparing such problematic subfloors.

Low-emission products, standard-conforming installation conditions and perfectly dry subfloors, primers and fillers are required to ensure the best possible interior air quality after any floor covering work.

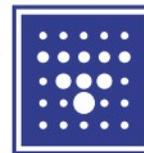
2.2 Underlays

We strongly advise not to install any additional underlays prior to laying needle felt in object areas and private areas.

If installed on heated subfloors, underlays may reduce the heat transition significantly, which must also be taken into account during the planning process.

The following points are to be considered when using underlays:

- The underlay must not affect the properties of the needle felt flooring in any negative way. This particularly applies to areas where castors (office chairs, furniture) are used. Furthermore, it must be considered that pressure marks by chair legs, table feet and similar objects are inevitable. The limits of the mechanical properties of the needle felt flooring material shall not be exceeded.
- As described in section 2.1, the subfloor must also be tested and prepared if underlays are installed. The same criteria apply, e. g. with respect to dryness, subfloor stability etc.
- Both the underlay and the needle felt flooring shall always be glued on the entire subfloor surface. In case of doubt, test pieces shall be laid in advance.
- It shall be noticed that underlays are usually non-absorbent, which must be taken into account when selecting and applying the corresponding glue.
- In case of conductive floors, the underlays to be installed must not impede the electrostatic discharge.
- The admissibility of the needle felt flooring with respect to fire safety may be nullified by the installation of underlays, which must also be taken into account by the specialist planner. Additional combination checks may be required.



3. Laying

The material should be laid by a specialist company. In this context, the provisions of DIN 18365 "Flooring works" as well as the acknowledged professional rules shall be complied with.

3.1 Interior climate

The interior climate conditions have considerable implications on the final result of the flooring works and are therefore of crucial importance. The provisions of DIN 18365 "Flooring works" prescribe a minimum floor temperature of 15°C, a minimum air temperature of 18°C and a maximum relative air humidity of 75%. For needle felt floorings by Condor Group, room temperatures between 18°C and 22°C and air humidity levels of 40% to 65% are recommended. In order to achieve the best possible results, these conditions should be maintained three days before and seven days after the laying process.

Needle felt floorings by Condor Group are suitable for use on heated floor constructions. During the laying process, the surface temperature of subfloors with an integrated floor heating shall remain between 18°C and 22°C.

3.2 Laying direction

According to DIN 18365 "Flooring works", the laying direction is up to the contractor. The backside of any needle felt flooring by Condor Group is marked with an arrow, which is to ensure that the laying direction of the material remains consistent. If the material is installed on underlays, the joints and seams of the upper flooring shall be staggered.

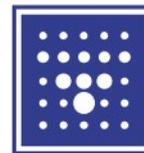
3.3 Cut

The textile material must always be cut in dry condition before it is glued. In order to do so, the material webs are 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 shall 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.

3.4 Adhesives

Needle felt floorings in the form of webs must always be glued entirely. For this purpose, only products recommended by the respective manufacturer of adhesives for this specific flooring type shall 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 professional rules, the technical data sheets as well as the safety data sheets of the manufacturer shall be complied with regarding the application of the adhesives.

The adhesive as well as all other materials are to 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, they are to be replaced in due time depending on the degree of wear in order to ensure a constant and correct amount of glue. The back of the flooring material must also be carefully covered with glue.

3.5 Gluing

The middle web must always be glued first. The arranged and cut needle felt webs are to be pulled back to the middle of the room. Those web halves that are to be laid tightly against adjacent areas like door sills or frames are to be glued first.

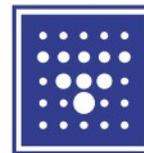
The next step is to evenly spread the adhesive over the uncovered area by means of the prescribed notch trowel. It is important to avoid double layers of glue in the adjacent area of the remaining webs. For this reason, the following glue application must be worked precisely to the line of the preceding glue application.

The needle felt web is to be laid into the adhesive bed without air pockets and under consideration of the airing time, especially the "open" time, prescribed by the manufacturer. Winding ends are to be bent. It may be necessary to lay weights onto the top ends or seams until the adhesive has dried out.

Immediately after laying the needle felt on the adhesive, the webs must be worked with a roller (at least 50 kg). This is the only way to achieve a sufficient distribution of and connection with the adhesive. The seams require particular attention. The areas around the seams must not be rubbed against the glue, since this may result in visible marks. After a short break (about 15 to 30 minutes), the process is to be repeated on the entire surface.

Under no circumstances shall the flooring be covered with a diffusion barrier (e. g. foil) after the laying process is completed, since this would impede the evaporation of the water held by the dispersion adhesive.

After the adhesive has dried out entirely, the flooring is to be protected against soiling.



4. Conductive laying

When laying conductive needle felt floorings, the permissible subfloors listed in section 2.1 are to be observed. There are two possible laying approaches:

- On subfloors prepared with a special conductive layer
- On copper strips

Depending on the provisions of the specialist planner, these measures prevent, for example, electrostatic charging of persons. Such surfaces shall only be connected to the corresponding ground potentials/ground wires by electricians. The distance between the earthing points must not exceed 10 m. The applied adhesive must not affect the conductive properties of the needle felt flooring in any negative way and must be conductive itself.

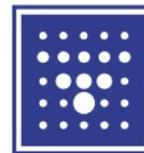
4.1 Laying on a conductive base

Suppliers of flooring materials offer specific, highly conductive, liquid conduction materials suitable for the establishment of a conductive base. Similar to a primer, these materials are to be spread over the entire subfloor. When the conductive layer has dried out completely, copper strips with a length of about one meter are glued to the floor every 30 to 40 m². The copper strips must stick out of the surface so that they can be connected to the ground potential. The connections are determined by the specialist planner. The strips are glued by means of a conductive adhesive as described in section 3.6.

When gluing the copper strips, it is to be noted that the conductive layer reduces the absorbent properties of the putty considerably. The airing times of the conductive adhesive are to be adjusted accordingly.

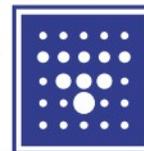
4.2 Laying on copper strips

As an alternative to conductive layers as described in section 4.1, copper strips may be installed lengthways underneath each needle felt web. Another copper strip is to be glued within the top area of each web so that a cross connection is established. In order to connect it to the ground potential, the copper strip must stick out of the surface. Self-adhesive copper strips are highly recommended. However, the strips may also be glued to the prepared subfloor by means of a conductive adhesive in accordance with section 3.6.



5. Important notes

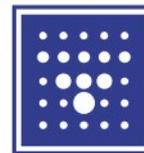
- In order to prevent damages or shifts, the needle felt flooring shall not be stressed for 24 hours after the completion of the flooring works. Furthermore, the floor should be protected against direct sunlight, heat sources and strong air circulation.
- In order to prevent damages or wear around the edges of the needle felt flooring, transitions to other floorings shall be covered by suitable metal profiles.
- If office chairs are used on the needle felt flooring, they must be equipped with hard castors (type H according to DIN EN 12529) of appropriate sizes. In case of heavy stresses, it is advisable to use floor protection mats of plastic in order to avoid wear and optical damages.
- Depending on the interior climate, the specific material and fibre design of needle felt floorings may lead to shrinking and/or expansion behaviour. At relative air humidity levels above 70%, the flooring expands. Relative air humidity levels below 40% cause the flooring to dry out and shrink. It may be necessary to express reservations to the owner/client within the framework of the testing and notification obligations if an unfavourable interior climate is expected for the long term.
- According to the provisions of DIN 18365 "Flooring works", the contractor must provide the client with written care instructions. The care and maintenance instructions for needle felt floorings by Condor Group are available on our website www.condor-group.eu.



6. Questions and answers

Most often after laying a carpet, questions arise that can also be answered beforehand.

Issue	Answer
Inconsistent fibre pattern	It is possible that some fibres stick out of the flooring surface. These fibres may be cut without risking any damages.
Possible colour deviations	Floorings may include differing fibre directions, which causes optical colour deviations. However, these are usually not real colour differences but rather an attribute of the flooring material.
Loose fibres	After laying a textile flooring, excess fibres may come loose. These fibres may be removed by regular vacuum cleaning.
Folds in the needle felt flooring	If there are still any irregularities or folds in your carpet after the laying has been completed, please contact the responsible carpet layer.



7. Warranty conditions

After the laying has been completed, it is very important to check the final result. After a maximum surface of 100 square metres has been finished, an assessment of the product is usually quite easy to perform. If any deviations from the product specifications become apparent, Condor Group must be informed immediately. In such a case, any further installation of the flooring material is not permissible. Condor Group will try to find a solution as quick as possible.

If the laying instruction is not complied with, this can cause the warranty to expire. In case of non-compliance with the laying instruction, Condor Group does not accept any liability for resulting damages or errors.



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8. Support

The present laying instruction is available as a digital document on our website www.condor-group.eu where you will also find our cleaning and care brochure as well as further information for download.

The executive specialist company will gladly answer your questions and provide you with additional information. Feel free to get in touch with us via our contact form under www.condor-group.eu.