



## MALTZAHN

### **Installation recommendations for carpets from the company Maltzahn Carpet Innovation GmbH for commercial and residential areas**

The statements in the following installation instructions are of a general nature. Only proper and professional installation according to the "General Technical Regulations" of the ATV/VOB Part C DIN 18 365 and the newest bulletins and/or guidelines [and] recognised rules of the trade, will you be able to benefit long-term from the quality and promised characteristics of the carpet.

These installation recommendations serve as explanations for experience carpet installers and make no claim to be exhaustive. Should the recommendations and processing rules from the suppliers of consumables e.g. adhesives and speckling material state otherwise, the manufacturer's information is always binding. All materials to be used must be so constituted that they are compatible with each other and do not cause any negative influences on the overall construction or on the floor covering. It is the responsibility of the planner and the installer to use compatible products and/or lay down suitable test areas in order to exclude possible sources of error.

In the course of exercising his duty to inspect and due diligence prior to beginning work the installer must, in writing if needed, report any concerns to the builder or planner.

#### **Substrates**

The most important types and requirements for screeds are summarised in DIN/EN 18 560. The following surfaces must be found: Cement screed, anhydrite screed, concrete surfaces, poured asphalt screed, magnesium screed, terrazzo, marble, ceramic, wood chip panels, hardwood flooring, flooring ready prefabricated screeds, etc.

The compliance with and continuance from our Fire class (Bfl-s1 or Cfl-s1) has by cementing backgrounds validity. Otherwise the nuance automatically goes to the Fire class "Efl".

#### **Testing the Substrates**

Prior to processing textile floor coverings, the contractor (installer) must inspect the subsurface to make certain that processing the flooring is possible. The installer must record any concerns arising during this inspection in writing, see VOB Part B §4 No. 3.

Some examples:

- Significant uneven areas
- Cracks in the substrate
- Substrate is not dry enough
- Surface of the substrate is not solid enough, substrate is too porous or rough, surface of the substrate is not clean, e.g. due to oil, wax, lacquer or residue from paint
- Improper height of the surface of the substrate with respect to the height of adjoining structural components
- Substrate's temperature is unsuitable
- Room climate is unsuitable
- Lack of a warm-up protocol in the case of heated flooring constructions
- Lack of markings for measurement locations in the case of heated flooring constructions
- No overlap on edge insulation strips

If floor coverings are to be installed on wood floors (incl. parquet floors, chip panels, etc.), then the duty to inspect also extends to the suitability of the properties of these substrates.

#### **Attention!**

Failure to inspect the substrate can lead to damages during or after installation.

Older wooden floors that were waxed or oiled can tend to react after a floor covering has been laid. This can not only compromise the firmness of the overall bond, but can also cause odours, pollute the ambient air, etc. For this reason, old layers of wax and pain need to be completely removed.

In the case of wooden structures, you must make sure that the subfloor can be ventilated, as this is the only way that moisture damage to the construction can be avoided over the long term. For this type of installation, specialised skirting boards that allow ventilation are available in trade shops.



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### Moisture Test

Subfloors with the exception of asphalt constructions evince a certain household moisture. As soon as the benchmark values are exceeded, this means that the subfloors are still too moist, and the elevated moisture at the time of installation can later lead to damaging effects. For this reason, the subfloor must be tested before installation using a suitable means of measuring moisture (CM-method). The specific values must be taken into account according to the rules of the trade. In the case of heated floors, the builder must present protocols for warming up and cooling down. Furthermore, the flooring installer must perform moisture measurements at specified locations (without heating pipes).

### Pre-Coats and Filling Compound

Substrates that do not permanently bond with filling compound must be pre-coated with suitable pre-coatings: e.g. very thick, very smooth or very porous and highly absorbent substrates etc. In the case of anhydrite and magnesium screeds, a pre-coating is always required.

### Old Substrates

#### Installing on Old Substrates

Floors on which a floor covering was glued in the past must be cleaned of any glue residues and other contaminants so that a smooth surface is made. These surfaces must be very thoroughly vacuumed immediately before application of a pre-coat in order to remove any dust build-up from the substrate's pores. Then, apply the pre-coat and spackle using absorbent filling compound. You can select a suitable filling compound as well as the layer thickness and the amount of water you will need to use from the preparation guidelines of the filling compound manufacturer.

### Underlayments

The insulating underlayments available on the market are generally suitable for contractor use as offered. Often the insulating underlayments suitable for use in areas where castor chairs are used are labelled as such. Keep in mind that response to downward pressure, suitability for use with castor chairs, as well as the fire behaviour of textile floor coverings can all be negatively influenced. Please also pay attention, that you degrade our Fireclass on "Efl" when you use documents- To protect yourself from losses, we ask that you coordinate with our application engineering. Underlayments must be installed so that their joints and seams do not lie directly underneath the seams of the floor covering.

Note: Old Flex tiles (vinyl/asbestos tiles) and CV-floorcoverings can contain asbestos. These floor coverings can only be removed by specialized companies holding permits under the conditions of TRGS 519 and Special Procedure BIA PT 11 + PT 15. Glues contaminated with PAK and floor coverings/parquet and wood paving may

only be dealt with by specialized companies according to the handling instructions of the professional association for the construction trade.

### Processing the Carpet

Prior to the initial cut, the carpet must be inspected for correctness, colour shading, colour consistency and all other visible defects. In this inspection, the general and usual production-related and installation-related tolerances may not be reported as defects.

Any actual defects must be reported to Maltzahn Carpets Innovation immediately prior to the initial cut of individual strips. After the initial cut or installation, visible defects can no longer be recognised.

### Processing Multiple Rolls

In the processing of several rolls, the roll label must be checked with reference to the production lot numbers. Furthermore, we ask that you note the sequentially increasing roll numbers. Division into strips may only proceed in this sequence in order to avoid color differences at the seams.

### Acclimatization

In order to assure correct and proper installation, textile floor coverings (but not fibre bonded floor coverings) and the glue to be used must be acclimated for 48 hours before processing.

The temperature of the surface of the substrate must not be below 15°C, in the case of heated floors between 18°C and 22°C. The air temperature should not drop below 18°C. Furthermore, the relative humidity in the room may not exceed 65%. These climate conditions must be maintained for at least 3 days prior to the beginning of preparations and at least 7 days after completion. In order to maintain these conditions, a building de-humidifier should be provided for use if needed. Floor coverings and glue should be adapted to the temperature of the substrate.



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### **Fibre Bonded Floor Coverings and Acclimatisation**

Since polyamide fibres absorb moisture from their surroundings, the product can expand if the ambient humidity is high, which will then lead to contraction later when the fibre bonded floor covering dries out underneath. For that reason, you must only remove the fibre bonded floor covering from the packaging when installation is starting. Make certain that the individual strips are glued as immediately as possible after the strips are rolled out, in order to prevent this expansion.

### **Laying Out the Strips**

To the extent that no separate agreements are made, the division into strips and laying direction of the individual strips is left to the installer. Within a single spatial unit [or room], the direction of carpet strips may not change. In order to avoid later problems, it is advisable to coordinate the laying direction with the construction management or builder.

### **Cutting the Track Edges of Univelour and Structured Pile Loop Carpet**

The edges of the strips absolutely must be cut. Make sure that the pile direction of all strips runs in the same direction. In the case of velour qualities and pile loop articles, the track edges must be straightened along the tuft line of each track using a special pile channel cutter or hook knife. If both strips are exactly cut, the floor coverings can be knocked back and glued (see 'gluing individual strips').

In the case of pile loop carpet, the edges should be extra reinforced in areas near transition rails and stone floors.

### **Patterned and Printed Floor Coverings**

Installation of patterned floor coverings is always more time consuming than that of single-colour carpets. This must already be taken into account in the calculations.

In determining what needs to be ordered, keep the following in mind. To the extent that the pattern can be broken at doors, the first track should be ordered in original length (plus allowance for the edge trim of around 10 cm). All other strips are to be ordered with a full allowance for pattern repeat. This is the only way to assure that all strips are delivered in adequate length.

Prior to gluing, all strips in a single room are to be laid next to each other loosely. In this case one needs to pay attention to ascending sequences of strips or rolls. In the case of tufted floor coverings, the track edges will be cut singly, along a steel rule, to the end of the pattern. Once the strips are laid out loosely next to each other, one can see where pattern mismatches occur (due to production techniques these cannot be avoided, see literature on DIN 18 365). The precision fitting of several strips with each other can be achieved if a deviation of 0.35% is present in each track. In the case of a length of 10 lfm, for example, a variation of 3.5 cm may occur in each track. Deviations from the horizontal may be a max. of 4 cm with reference to 4 lfm track width. The trained carpet layer can compensate for these tolerances by stretching the carpet. This can be done using a two-headed carpet tensioner or the like.

### **Matching the Pattern**

The cut track edges will be aligned with each other in the middle of the room precisely to fit the pattern. Depending on the unit of space, the strips will be knocked back and then glued over the whole surface using a notched trowel and a high-grade dispersion adhesive (Class EC 1) in adequate quantity as specified in the manufacturer's directives. Once the glue is applied, the strips must be laid into the glue bed either immediately or after a short waiting period (airing time), depending on the climatic conditions and the track length (see 'gluing individual strips'). The pattern must be fit precisely in the centre of the room and fixed in place using nails or a tensioning bar (nail the nailing strips to the floor with nails facing down).

### **Attention!**

In the case of heated floors one may not use nails, in order to prevent damage to the heating system.

Now the pattern can be adjusted (stretched) continuously along the track edges in the glue bed using a double-headed carpet tensioner. The strips can thus be matched precisely in line with the pattern in both directions to the walls. This adjustment must be made rather quickly, since the glue may not set in this time, since stretching will no longer be possible once this has happened. After or during the stretching, the areas must be completely smoothed out and/or rolled out before you can start installing other strips. All strips will therefore be adjusted in the same pattern, until the pattern is completely and precisely aligned in every unit of space.

### **Gluing Individual Strips**

Both in the private sector as well as in the commercial sector a full bonding is to be performed. A suitable adhesive must be selected based on the backing of the floor covering, the substrate and the intended purpose. Always make sure that premium "very low emissions adhesives" e.g. Class EC 1 are used as these are an "Ü-sign"/AbZ-approval in whole Germany. Please notice our glue-a and architecture recommendations from the company Mapei and company Wulff.



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### Applying the Glue

The quantity of glue used depends on the composition of the subfloor, the specific gravity of the glue as well as the form of the backing on the carpet (roughness). The glue is applied over the entire surface using a serrated trowel. The form of serration is specified by the glue manufacturer. When applying the glue, keep in mind that the no uneven accumulations of glue may remain in the slight indentations in the substrate. Depending on the type of glue, you can lay the carpet into the glue bed after application and after allowing for the airing time (the excess water in the glue must be able to escape into the air in the room). Always make sure the backing on the carpet is adequately moist.

### Installation Recommendation for Conductive Carpets

In recent years it has frequently become apparent that conductive carpets were installed without using any special conductive installation technique. However, we recommend as advisable conductive installation as follows.

The substrate on which the carpet will be installed must be inspected and prepared as described above. The completely smoothed substrate will be completely coated with a conductive coating after it has been allowed to dry thoroughly. Once this pre-coat has dried, a copper strip (10 x 0.08 mm) will be glued every 30 m<sup>2</sup> 7 lfm measured axially in the vicinity of the planned earthing point; they will be glued on the conductive pre-coat with conductive adhesive. The copper strips should extend into the room by approximately 1 lfm. and remain in place for an adequately long time along the earthing point. Note that connection may only be completely by an electrician. The remainder of installation however will be carried out in accord with the manufacture or pattern of the carpet as described in this recommendation. When gluing the carpet strips, of course, you must use a conductive adhesive (EC 1) in adequate quantity.

### Attention!

Protective coverings may only be applied after the glue sets!

### Installing on Stairs

When purchasing carpet check for suitability for use on stairs, see the symbol on the side. Depending on the amount of traffic, select the corresponding quality by according to its durability rating. Keep expected frequency of traffic in mind. If needed a special stair skirting boards (stair edge) may be installed. In determining the quantity needed, always keep in mind that the pile direction will be laid in a downstairs direction, i.e. in velour qualities the direction of the nap will be laid running on the stair surface in the direction of the edge of the stair, to the extent that no stair skirting boards are used. If stair skirting boards are used, install in the direction opposite the pile direction. The radius of the stair edges must be rounded off at least 10 mm.

Due to the variety of different materials, as well as stair configurations, we cannot discuss sub-floor preparation in any detail.

The carpet must be roughly adapted to the individual stair treads, i.e. there should be about 1-2 cm of overhang on all sides. Gluing on the tread can be done using a suitable dispersion adhesive EC 1. To the extent that the floor covering must extend over the edge of the stair, do not shy away from using dispersion contact adhesives.

Apply the dispersion adhesive in adequate quantity on the tread using a serrated trowel. After allowing for airing time, lay the carpet and once the glue sets, cut to fit the stairs precisely.

If using contact adhesives (on a dispersion base), adequate glue must be applied to both the stair tread and the carpet backing. After airing or drying of both glued surfaces, lay the carpet and smooth it out. Only after this should you fit the carpet to the contours of the stairs.

### Cleaning

It isn't just a noble gesture, handing out a recommendation for care and cleaning. You are actually required to hand one out and document it. In the case of commercial use, the use of a high-performance brush-equipped vacuum cleaner with motor-driven brush rollers is required. See our detailed care and cleaning recommendations.

Preventative measures such as suitable and adequately dimensioned dirt trapping systems/clean walking zones reduce the accumulation of dirt and must be taken into account already when planning.

### Suitability for Use with Castor Chairs

Office chairs must have castors suitable for use on the floor covering in every case. DIN EN 12529 distinguishes here between two types. In the case of textile floor coverings, only castors of type H (for hard) may be used. If unsuitable castors are used, one must reckon with increased signs of wear. The technical statements from our company are restricted solely to the suitable chair castors according to the norm referenced above.



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### Limit of Installation Recommendation

The manufacturer accepts no liability for any damages resulting from the failure to heed these installation instructions. Claims of legal recourse on this basis are excluded.

The statements made in these instructions for installation can only be of a general nature.

In cases of doubt, we recommend adequate tests of your own as well as laying test or sample areas.

In case of any doubts, The German version is binding!

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