Fitting recommendations for carpets in domestic and public, commercial and industrial buildings

The information provided in these fitting instructions is of general nature. Only proper and expert fitting in accordance with the "General Technical Regulations" ATV / VOB Part C DIN 18365 and the latest notice sheets and guidelines ensures proper and expert workmanship.

These fitting recommendations are intended as notes for the experienced fitter and lay no claim to being complete. If the recommendations and processing instructions of the supplier of auxiliary materials, e.g. adhesives and stopper material, differ, the information provided by the manufacturer is always binding. All materials to be used must be designed in such a way that they are suitable for each other and do not have any negative influence on the overall construction and floor covering. It is the responsibility of the planner and the fitter to use products that are suitable for each other or to provide sufficient test areas so as to exclude the possibility of any sources of error.

It is part of the fitter's duty of inspection and care to notify the owner or planner of any objections in writing before starting work.

If our carpet rolls arrive damaged despite their transport packaging, please note this on the haulier's delivery note immediately and accept the goods under reservation if necessary. Only if such notes have been made is it possible to take action against the haulier for the damage.

1. Substrates

The most important types of substrates are: cement screed, anhydrite screed, concrete floors, poured asphalt screed, magnesium oxychloride screed, wooden chipboard, prefabricated floor screeds etc. If fitting on double floors, please consult our specialists or our Applications Technology department (Fax No. +49 521 9245936, E-Mail: technik@carpet-concept.de).

1.1 Inspecting the substrates

Before laying textile floor coverings, the contractor (fitter) must inspect the substrate carefully to verify whether the covering can be processed. After inspection, the fitter must submit to the client any objections in writing according to VOB Part B § 4 N°. 3.

Some examples:

- unevenness exceeding the evenness tolerance according to DIN 18202
- cracks in the substrate
- closed movement joints
- insufficiently dry substrate
- surface of the substrate is too rough and porous
- surfaces of the substrate are soiled
- surface of the substrate is insufficiently firm
- no heating-up report in the case of under floor heating
- no screed markings for measuring moisture
- adjacent components at an incorrect height
- unsuitable temperatures of the substrate and climatic conditions (Minimum temperature 18 °C with a maximum relative air humidity of 65 %. These atmospheric conditions in the room must be maintained 3 days before and at least 7 days after fitting, day and night.)
- edge insulating strip does not project
- etc.

Attention!
Non-observance of the substrate inspection may lead to damage during or after fitting.

1.2 Moisture check
With the exception of asphalt constructions, substrates evidence household moisture. As soon as these key values are exceeded, i.e. the substrates are still too damp, the increased moisture present at the time of fitting can have a harmful effect in the period thereafter. For this reason, the substrate must be inspected before fitting by means of a suitable moisture measurement process, e.g. the CM method. The respective values must be checked against the state of the art. In the case of under floor heating, the owner must present a heating-up and cooling-down report according to the cutting point coordination. In addition, the floor layer must carry out a moisture check at marked places (without heating pipes). During and after fitting, the floor temperature must be approx. ± 22 °C.

1.3 Primers and stoppers
Substrates with which stoppers will not bond permanently must be primed with suitable primers, e.g. very thick, very smooth or very porous and highly absorbent substrates. A primer is always required in the case of anhydrite and magnesium oxychloride screeds.

2. Fitting on old substrates
Floors to which a wearing covering had already been glued in the past must be freed from adhesive residues and other soiling so that a firm, smooth surface is created. It must then be primed and stopped with absorbent stopper. Please refer to the processing guidelines of the stopper manufacturer for the suitable stopper, the thickness of the application and the water-cement factor. It is recommended to use materials from one manufacturer which are co-ordinated.

3. Insulating underlays
The insulating underlays available on the market are invariably offered as suitable for private and/or public, commercial and industrial buildings. The insulating underlays are often identified as suitable for chair castors and B1/C_{fl}-s1. Please remember that the indentation behaviour, the chair castor suitability and the fire behaviour of textile floor coverings can be impaired. To protect yourself against losses, please consult our Applications Technology department. A fitting on underlays requires the explicit consent of our Applications Technology department. Underlays must be fitted in such a way that their edgings and seams do not coincide with the seams of the floor covering.

4. Processing the carpet
Before being cut to size, the carpet supplied must be inspected for faultlessness, its colour and all other identifiable defects. The general and usual production-related tolerances (e.g. colour of a batch according to grey scale ≥ level 3) should not be reported in this inspection. Any defects must be notified to Carpet Concept immediately before individual runs are cut. Visible defects might no longer be accepted once the carpet has been cut or fitted.

4.1 Processing several rolls
When fitting several rolls, ensure that the roll labels and the production or batch number on each roll match. If no cutting plan is provided, begin with the smallest roll number and work to the largest roll number. If a cutting plan is provided by the factory, this takes precedence. Each roll must be fitted in the specified order so as to avoid colour deviations at the seams. Only lay the outside edges (original edges of the carpet) against one another.

Carpet Concept Objekt-Teppichboden GmbH
Bunzlauer Strasse 7, 33719 Bielefeld. GERMANY
Tel.: +49 (0)521 9245924
Fax: +49 (0)521 9245936
E-Mail: technik@carpet-concept.de
www.carpet-concept.de

4.2 Conditioning
In order to ensure perfect fitting, the textile floor coverings and the adhesive to be used must be conditioned for about 48 hours before processing. Ensure a floor temperature of at least + 15 °C and a room temperature of at least + 18 °C at a relative air humidity of no more than 65 %.

Attention! Needlefelt covering, continuous carpeting
As polyamide fibres absorb humidity from their environment, an expansion of the product can be noticed in the case of an increased air humidity, which may lead to shrinkage when the needlefelt floor covering becomes dry. For this reason unpack the needlefelt floor covering for conditioning only when you start the fitting. Make sure that the gluing of the individual runs is made immediately upon the rolling out of the runs to avoid expansion.

4.3 Laying out the runs
In the absence of any specific arrangements, the division of the runs and the direction of fitting of the individual runs are left to the fitter. However, the direction in which carpet runs are fitted must not change within one spatial unit. To avoid any discrepancies later on, it is advisable to co-ordinate the direction of fitting with the site engineer or the owner before fitting.

4.4 Trimming at columns and pillars
Insofar as the room contains columns, pillars and similar, the cut for the respective carpet run must always be made lengthwise. Crosswise cuts sever all pile yarns, which has a permanent negative visual impact.

4.5 Trimming the run edges in the case of needlefelt floor coverings
The runs are laid out beside each other and overlapping approx. 4 cm in the seam area. The seams can be cut either with a special knife (Stanley knife) or with a large hook-type blade or a special seam cutter. Make sure that both edges of the run are trimmed with a double cut (cutting the lower edge in the adhesive bed is not permitted).

After the seam has been cut, the runs are folded back lengthwise (or crosswise in smaller rooms). It is essential that the runs do not slip out of position. In the case of longer runs, we recommend that the individual runs are weighted or tacked down (e.g. with clamping rails). Be careful, though, not to put tacks through pipes etc. in the screed.

Make sure to use glue which achieves high stabilities very quickly and has rigid glue joints and has a rigid glue joint after gluig. E. g. UZ 88 manufactured by Uzin would be suitable. For the application of the glue we recommend to use a screed with B1 or B2 dents or larger. After the gluing do not use a hammer or similar metal instrument for rubbing down. The friction heat generated could lead to bright patches that cannot be removed.

4.6 Trimming run edges in the case of tufted one-colour cut-pile and looped carpetings
The trimming of the run edges I s always renommendable. They are double-cut along a rail in the pile direction. In the case of cut-pile and looped carpetings, the run edges have to be cut, if possible, along the tuft channel, each run separately, using a special pile channel cutter or hooked knife. No perfect seam cut along the web can be made with the articles that are tufted on a stitch racking device. Once the two runs have been cut to the exact dimensions, the carpetings can be folded back and glued (see the section on glueing individual runs).

In the case of looped carpeting, the edges must be additionally reinforced with a colourless fixative near seams, rails, power supply units and adjoining stone floors etc.

Carpet Concept Objekt-Teppichboden GmbH
Bunzlauer Strasse 7, 33719 Bielefeld. GERMANY
Tel.: +49 (0)521 9245924
Fax: +49 (0)521 9245936
E-Mail: technik@carpet-concept.de
www.carpet-concept.de

4.7 Trimming run edges of woven carpetings

The trimming the run edges is essential in principle. The selvedges have tuft lines made up of different-coloured yarn. When the runs are laid out, two edges of the same colour should never be laid side by side, as otherwise the pile direction will not coincide. Each run edge is cut along this tuft line. Please make sure that the light-coloured binding thread and the filling warp are neither trimmed nor cut at the run edge. If a pile channel cutter is used, you can cut from the pile side. If a hooked knife is used, we recommend that you cut from the rear along the tuft line. The tuft line forming the pattern must never be cut or trimmed.

In the case of looped carpeting, the edges must be additionally reinforced with a colourless fixative near seams, rails, power supply units and adjoining stone floors etc.

4.7.1 Trimming run edges of Eco

For short carpet runs (e. g. crosswise running hallways, etc.), we recommend cutting the run edges separately. Cut approx. 2 – 3 cm precisely and in parallel from the roughly pre-cut edges on the right and left hand side of the length of carpet. Place a roll-up steel straightedge (8 cm wide) precisely along the edge of the strip. For longer carpet runs, we recommend cutting the run edges by overlapping them and double cutting the seam. Once the two Eco carpet runs are precisely overlapped, place a long, sturdy roll-up steel straightedge along the edge to be cut. Here, it is essential that the upper carpet run falls entirely within the overlap area. Double cut the seam with a sharp seam cutter (Stanley knife) along the roll-up steel straightedge. If the initial cut did not completely sever the lower carpet run, cut again along the same line prior to moving the roll-up steel straightedge. Insofar as all the pile-binding fibres are severed, it is possible to cut the textile backing with a sharp hooked blade. Never make the seam cut using only a hooked blade. This could result in fibre filaments being pulled out of the binding. Eco should preferably be cut with the Janser acrylic carpet cutter, order no. 262254600. Due to the manufacturing method, always avoid creating head seams on all carpets made of flat-woven fabric. However, if this is unavoidable (e.g. doorways etc.) cut precisely in the area of the lower lying rib as described above.

<u>Eco Design</u>

Due to the design-forming weave the seam cut must never be made in the pattern area. If the pattern-forming areas are cut inadvertently, this may lead to optically dominating pattern formations.

4.8 Patterned and printed carpetings

It always takes longer to fit patterned carpetings than it does to with plain carpetings. This has to be taken into account already when making the calculation. Take the following into consideration when determining the amount to order:

The first run must be ordered in the original length plus an additional allowance for trimming of approx. 10 cm. All other runs must be ordered with a full repeat allowance. This is the only way to guarantee that all runs will be supplied in the required length.

Before gluing, lay the runs loosely against each other. Here too, you must follow the ascending order of runs or rolls. Refer to 4.6 for processing woven carpetings. In the case of tufted floor coverings, the run edges are cut individually along a steel ruler at the edge of the pattern. Both Stanley knives and hooked knives have proven to be useful. If the runs are laid out loosely beside each other, it is possible to see where planted designs occur (for technical reasons these cannot be avoided, see general terms and conditions). The dimensional accuracy of several runs to each other can be achieved if each run has a maximum deviation of 0.35 %. With a length of 10 m, for instance, a maximum deviation of 3.5 cm per run is permissible. Deviations from the horizontal of up to 4 cm over a run width of 4 m are allowed. The trained carpet fitter can compensate these tolerances by stretching. This can be achieved by using double-headed tensioners or the like. To do so, proceed as follows:

4.9 Matching the pattern

The cut run edges are laid adjacent to each other and faithful to the pattern in the middle of the room. Depending on the spatial unit, the runs are folded back and subsequently glued with a sufficient quantity of high-grade dispersion adhesive (of class EC 1) by means of a notched spatula as prescribed by the manufacturer of the adhesive. Once the adhesive has been applied, the runs must be placed into the adhesive base (see the section on gluing individual runs) immediately or after a short waiting period (airing time), depending on the climatic conditions and run length. Ensure that the glue is applied to the entire surface of the back of the carpet.

In the adhesive base you can now go on aligning the pattern at the run edges using double-headed tensioners. This means that the runs can be adjusted to the exact pattern in both directions up to the walls. This alignment of the pattern must be done relatively quickly; because the adhesive should not set during this period as otherwise it will no longer be possible to stretch the carpet. After stretching, the entire surface must be rubbed down before you can begin fitting other runs. Thus all the runs are aligned in the same manner until the complete dimensional accuracy of the pattern for the particular spatial unit is achieved.

5. Gluing individual runs

A full-surface gluing is recommended. The appropriate adhesive must be chosen according to the back of the carpet, the substrate and the required purpose. Always ensure that high-class "very low emission adhesives", e.g. of class EC 1, which comply with all legal requirements, are used, such as Mapei Ultrabond Eco 170, Mapei Ultrabond Eco V4 SP, Henkel Thomsit T 410 or Bostik Power Tex.

5.1 Applying the adhesive

The quantity of adhesive will depends on the properties of the substrate, the specific weight of the adhesive and the back quality of the floor covering (roughness). For the CAS product group (≥ V 400 backing), it is required to use B2 toothing for applying the adhesive. The adhesive is applied over the full surface by means of a notched spatula. The form of notching is specified by the adhesive manufacturer. When applying the adhesive, make sure that no adhesive accumulates in the indents of the substrate. Depending on the type of adhesive, the carpet can be placed in the adhesive base after application and once the airing time has elapsed (the excess water in the adhesive must escape into the air). Always ensure sufficient glue on the rear of the floor covering. The entire surface of the carpets must be rubbed down after being placed in the adhesive base. Depending on the room conditions, it may be necessary to rub down or roll the entire surface again after about 30 - 45 minutes. Final inspection and any further rubbing down/rolling must take place after approx. 60 minutes.

To avoid indentations, slipping out of position of the pattern and damage of seam edgings, a setting of the glue of at least 24 hours has to be observed. During this period the freshly fitted areas must not be weighted with additional construction work or with furniture, etc.

Attention! If additional construction work is carried out after fitting, the wall-to-wall carpet must be sufficiently protected from construction soilings, etc. The protection covers should only be applied after setting and once the glue is thoroughly dry. Please be sure that the protection cover is breathable and leaves no glue residues.

6. Fitting recommendations for conductive carpetings

The last few years have seen an increasing number of conductive carpetings being laid without any special conductive fitting. However, we recommend that conductive fitting is carried out as follows.

The substrate to be covered must be inspected and prepared as described above. The entire surface of the fully stopped substrate is primed with a conductive primer after it has dried out.

When this primer has dried, a copper band flag (10 x 0.08 mm) is glued on every 30 m^2 or every 7 m of axis length in the area of the intended earthing point with conductive adhesive. The copper band flag should reach about 1 m into the room and be of sufficient length at the earthing point. Attention: connection should always be executed by an electrician. Further fitting is carried out according to the type of manufacture or pattern of the carpet as described in these recommendations. When carpet runs are glued, of course, a sufficient quantity of conductive adhesive (EC 1) must be used.

7. Seam edge fixing

In the case of highly used areas and revision openings, round cuts and seams, etc. a permanent seam edge fixing is necessary. According to DIN 18365 (characteristic properties) this has to be made properly and professionally with a transparent glue. Smearing at the pile of the carpeting has to be avoided.

8. Stairways

The suitability for stairs must be ensured already when buying the carpet. The corresponding quality must be chosen according to the expected wear and tear, taking into account the anticipated frequentation. If necessary, a special stair rail (nosing) must be fitted on the edge of the riser. When determining the quantity required, always make sure that the pile direction goes downstairs, i.e. with cut-pile qualities the pile direction on the step leads towards the nosing. The radius of the nosings must be rounded off at least 10 mm.

Because of the large variety of different materials and stair versions, we cannot go into detail here about preparation of the substrate.

The carpet must be matched roughly to the individual steps, i.e. there should be a projection of at least 1 – 2 cm all round. Gluing to the step can be done using a suitable dispersion adhesive of class EC 1. If the carpet has to be led around the nosing, however, dispersion contact adhesive is indispensable in certain cases. The dispersion adhesive is applied to the step in sufficient quantity by means of a notched spatula. After the airing time has elapsed, the floor covering must be laid and then trimmed to the exact dimensions according to the stair contours once the adhesive has set.

If contact adhesives (dispersion-based) are used, the dispersion contact adhesive must be applied in sufficient quantity to both the step itself and the back of the carpet. After the airing time or after the two adhesive surfaces have dried, the carpet is laid and rubbed down. Only then is the carpet adjusted according to the stair contours.

9. Cleaning

After fitting, you are obliged to verifiably hand over cleaning an care instructions. In the case of public, commercial and industrial buildings, the use of a powerful brush cleaner with motor-driven brush roller is essential. Of course, you can also refer to our current cleaning and maintenance recommendations free of charge. These can be obtained from our website (www.carpet-concept.de).

Carpet Concept Objekt-Teppichboden GmbH
Bunzlauer Strasse 7, 33719 Bielefeld. GERMANY
Tel.: +49 (0)521 9245924
Fax: +49 (0)521 9245936
E-Mail: technik@carpet-concept.de
www.carpet-concept.de

10. Special advice

10.1 Chair castor suitability

Office chairs must have suitable castors for the use of the respective floor covering. DIN EN 12529 distinguishes between two types. On textile floor coverings, only the use of castors of type H (for hard) is to be envisaged. If unsuitable castors are used, increased signs of wear can be expected. The technical information we provide is limited solely to the suitable chair castor according to the above-mentioned standard.

10.2 Limitation of the fitting recommendations

The information provided in these fitting instructions can only be of general nature.

Recourse claims in this respect are excluded.

In case of doubt, we recommend that you perform your own tests and carry out test or trial fittings.

Janser acrylic carpet cutter
order no. 262254600