

GUIDELINES FOR NEEDLE-PUNCH FELT IV - MODULAR SYSTEMS (TILES, PANELS, PLANKS, etc.)

➔ **Water-sensitive flooring, adhesives, and subfloor structures (including raised floors, cavity floors, and climate-controlled floors), including underlayments and their butt joints, particularly in the case of water- or moisture-retaining underlayments (e.g., felt or foam underlayments) and/or when a drying time of at least 12 hours without foot traffic is not possible!**

The numbering corresponds to the relevant section of the procedure description (notes, advantages, disadvantages) in the werterhalt.org information sheet.

PRO TECTION	2. + 3. PRESERVING VALUE FROM THE START	
		2. The Construction Phase 3. The Prevention
BASIS	4. DAILY MAINTENANCE CLEANING	
		4.1. Brush Vacuuming 4.2. Stain Removal
IMPORTANT!	5. + 6. INDUSTRY POLICIES	
	The procedures listed and described below for interim cleaning and deep cleaning are approved by the manufacturers participating in this technical data sheet, provided that the specific instructions for each procedure are followed. Methods that deviate from these guidelines may result in irreversible damage to the flooring—even if the damage occurs only after a delay—and are therefore carried out solely at the risk of the cleaner (or cleaning service provider, as applicable) and without the manufacturers' approval.	
OPTIONAL	5. INTERIM CLEANING PROCEDURES AVAILABLE FOR SELECTION BASED ON CLEANING TECHNOLOGY (To be performed by a qualified specialist company + strict adherence to the procedure description)	
	 	5.1. Cleaning with Pre-Made Foam + 5.3. Pad Cleaning 5.2. Powder Cleaning (Not Approved)
AT LEAST ONCE A YEAR AFTER INSTALLATION	6. THE AVAILABLE METHODS FOR DEEP AND INTENSIVE CLEANING (To be performed by a qualified specialist company + strict adherence to the procedure description)	
	   	6.1. Spray extraction (not approved) May be used to assist with stain removal as described in 6.2. in specific areas where only a small amount of moisture is used; individual approval from the manufacturer is mandatory. 6.2. Spot cleaning by partial spray extraction using only a handheld upholstery vacuum nozzle 6.3. The Combination Method (not approved) 6.4. The TEP-TOP-Clean® System Immediate Accessibility! Caution: Ideal for use with water-sensitive flooring and raised-floor systems, particularly with reusable tiles, panels, etc., that have a high proportion of joints. Advantages: No chemical residues; no rapid re-soiling; resource-efficient thanks to an approximate 96% reduction in drinking water consumption; Zero emissions into indoor air, as measured in the European reference room of the Sentinel Haus Institute in accordance with EN 16516; significant reduction in the concentration of fine particulate matter indoors and improved dust retention capacity of textile floor coverings; cost-effectiveness through reduced operating costs.
GENERAL	7. + 8. + 9. EXCLUSIONS AND NOTES	
	7. Retrofitting of fiber finishes is not permitted. 8. The use of steam cleaners is not permitted. 9. The working group www.werterhalt.org issues recommendations that promote recyclability and user health. Maintenance and cleaning have a direct impact on, among other things, suitability for reuse, as well as effects on indoor climate, user health, and building certifications.	

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NOTE:

This document contains an excerpt from the technical bulletin “Cleaning Procedures for Textile Floor Coverings and Their Steps,” approved by the werterhalt.org working group.

The selection of content is limited to the chapters relevant to this guideline.

For further information, please refer to the current version of the technical information sheet.

2. THE CONSTRUCTION PHASE

Make sure that the textile flooring is properly protected from dirt after installation. Planners must take into account as early as the construction planning and bidding phases that there is a duty to preserve a completed but not yet accepted trade (protection of the flooring from damage or soiling by subsequent trades) (ATV DIN 18365 Flooring Work 0.2.22).

If soiling occurs as a result of construction work, etc., after the textile floor covering has been installed and before the premises are occupied, it must be thoroughly removed through a professional post-construction cleaning.

Post-construction cleaning involves removing loose, dry dirt by vacuuming with professional, high-performance brush roll machines, preferably with counter-rotating brushes.

If more extensive soiling occurs, an additional, partial intensive cleaning must be included in the bid for post-construction cleaning. In accordance with Section 6, this must be performed exclusively by a qualified specialist company.

3. THE PREVENTION

About 80% of the dirt is brought in from outside on the soles of shoes. If this dirt is not removed regularly, it can cause irreversible damage to the flooring. A textile floor covering must therefore be protected as effectively as possible from dirt from the very beginning.

In entryways and transition areas (e.g., from hard flooring to textile flooring), sufficiently large clean-off zones appropriate for the amount of dirt brought in must be permanently installed.

Daily cleaning (vacuuming with a brush attachment as described in 4.1) is required to prevent these clean-off zones from becoming a source of dirt themselves ("stamp pad effect").

Another "stamp pad effect" can be caused by the improper use of e.g., cleaning agents that form soft films on resilient or hard floor coverings, such as oils or waxes.

4. THE DAILY MAINTENANCE CLEANING

4.1. Removing Dust from Textile Floor Coverings

Dust removal tailored to the amount of dirt accumulation (daily dirt accumulation = daily dust removal) and the removal of soiling are important components of an optimal cleaning program.

Dusting serves to remove loose or lightly adhering dirt from the surface and the spaces between the fibers through mechanical action (brushing) and the extraction of the loosened dirt. This cleaning process causes the wear layer to stand up, which also helps prevent premature track formation.

In addition, for pile carpets, this process opens up the pile to prepare it for subsequent cleaning.

The use of a brush vacuum cleaner with an electrically powered rotating brush is essential for both routine cleaning and more advanced cleaning procedures. In practice, a vacuum cleaner with a smooth floor nozzle is not suitable for cleaning textile floor coverings because a smooth floor nozzle does not achieve the same cleaning and maintenance results as the rotating brush of a brush vacuum cleaner.

Robot vacuums are also not suitable for regular routine cleaning due to their low efficiency.

Care must be taken to ensure the correct brush height setting and a systematic and thorough cleaning method.

Regular maintenance—particularly of the brushes, filters (preferably microfilters), and bags—is essential for the vacuum cleaner to function properly.

Use brushes that are suitable for the type of textile flooring (especially in terms of their hardness).

Dust removal remains a step in both intermediate and basic (or intensive) cleaning.

4.2. Stain Removal from Textile Floor Coverings

Stain treatment is part of daily maintenance cleaning and helps preserve the value of textile floor coverings.

It is also an essential step in all subsequent cleaning procedures.

Stain treatment involves the localized treatment of stains and soiling. Care must be taken to ensure that the cleaning agents used are removed without leaving any residue, so as not to promote re-soiling or damage the flooring.

Stain treatment must be performed immediately after a stain occurs.

The sooner a stain is treated, the greater the likelihood of removing it without leaving any residue, unless the stain has already damaged the fiber or the dye. If stains are treated immediately with suitable cleaning agents, complete removal is usually possible.

Not all stains—such as those caused by strongly staining substances like coffee, red wine, tea, mustard, toner, etc.—can be removed without leaving a residue.

Cleaning and stain-removal agents with a bleaching effect should only be used in exceptional cases and after consulting the flooring manufacturer, as they may cause damage under certain circumstances.

In most cases, dirt and stains can be removed with lukewarm water and an absorbent cloth (white cotton cloth) or microfiber glove. When doing so, do not rub; instead, apply pressure to the stain, working from the outside in.

Water-soluble stains should be treated using plain water that is no warmer than lukewarm, without using chemical detergents—as described above.

Remove non-water-soluble stains (oils, greases, etc.)—as described above—using a suitable stain remover.

If in doubt, please consult the carpet manufacturer.

Remove chewing gum, candle wax, etc., while the surface is dry, using a blunt object (such as a spoon) to avoid damaging the carpet fibers. Remove any remaining residue—as described above—using a suitable stain remover. When using products such as freezing sprays, please follow the manufacturer's instructions.

Before using a cleaning agent, it is generally recommended to first test the stain removal and cleaning effectiveness with a cloth dampened with water only, to avoid unnecessarily exposing the textile flooring, the indoor air, and the environment to harmful emissions (VOCs—volatile organic compounds).

Environmentally friendly and sustainable products should be used whenever possible.

Before purchasing cleaning products, it is recommended to review the property-specific guidelines regarding environmental protection, sustainability, and indoor air quality.

In all cases, without exception, before using a cleaning product on textile flooring for the first time, please ensure that the cleaning product intended for stain removal (if necessary) is tested on a scrap piece of flooring or an inconspicuous or concealed area before use.

Always store cleaning agents out of the reach of children and pets.

Always follow the safety and usage instructions provided by the cleaning agent manufacturers.

For spot removal using partial spray extraction exclusively with a handheld upholstery nozzle, see Section 6.2.

Sections 4.1 and 4.2 are integral parts of the respective cleaning procedures that follow.

5. THE INTERIM CLEANING

Interim cleaning involves cleaning part or all of the floor covering's surface with minimal penetration and should be performed exclusively by a qualified professional company that specializes in cleaning textile floor coverings. If in doubt, please consult the flooring manufacturer.

It is not a substitute for deep and intensive cleaning and can only delay the need for such cleaning.

Regardless of the specific method used, a test cleaning should generally be performed first.

The methods listed and described below for interim cleaning and deep cleaning are approved by the manufacturers participating in this technical data sheet, provided that the specific instructions for each method are followed.

Methods that deviate from these may result in irreversible damage to the flooring—even if delayed—and are therefore carried out solely at the risk of the cleaner (or cleaning service provider, as applicable) and without the manufacturers' approval.

Polymer-based “encapsulation methods” are not approved, as these methods cannot rule out the gradual formation of layers of residues that may not be biodegradable and that could impair the flooring's performance.

5.1. Cleaning with Pre-Made Foam

In this cleaning process, a crystalline, drying, stable foam—prepared inside the machine using a compressor—is applied to the textile floor covering using roller machines, single-disc machines, or similar equipment.

After a drying time of at least 5 hours, the floor covering must be thoroughly vacuumed again to remove the remaining crystalline foam residues, which are enriched with dirt.

- 5.1.1. Dust removal using a brush vacuum cleaner as described in 4.1.
- 5.1.2. Stain removal as described in 4.2.
- 5.1.3. Application of pre-mixed foam using a single-disc, multi-disc, or brush machine with a compressor
- 5.1.4. Extraction of the soiled solution with a high-performance industrial wet/dry vacuum cleaner
- 5.1.5. After complete drying, perform another thorough extraction in accordance with Section 4.1.

5.3. Pad-Cleaning

First, a special cleaning solution is applied evenly, for example, using a pressure sprayer.

A rotating single-disc machine equipped with a yarn or microfiber pad underneath loosens and removes the embedded dirt from the surface, trapping it in the pad.

When using the single-disc machine, ensure that the rotational speed is < 200 rpm to avoid damaging the textile floor covering.

Care must be taken to replace the yarn or microfiber pads in a timely manner to achieve optimal cleaning results.

Once completely dry, the textile floor covering is vacuumed with a high-powered brush vacuum cleaner.

Ensure that no system-related residues remain in the textile floor covering after using this method, as these can alter the fiber surface and lead to changes in the floor's tendency to attract dirt. Polymer-based products are not approved for use in accordance with Section 5.

The drying time is approximately 1 to 2 hours.

- 5.3.1. Dust removal using a brush vacuum cleaner in accordance with 4.1.
- 5.3.2. Stain removal in accordance with section 4.2.
- 5.3.3. Moisten the surface of the textile flooring with cleaning solution, e.g., using a pressure sprayer
- 5.3.4. Remove dirt from the surface of the flooring (shallow penetration) using a single-disc machine and pad
- 5.3.5. After the surface has dried completely, vacuum as described in Section 4.1.

6. THE DEEP AND INTENSIVE CLEANING

Intensive cleaning involves cleaning the entire surface of the textile floor covering to the full depth of the wear layer.

Intensive cleaning should be tailored to the specific property but should be performed at least once a year after the floor has been put into use, and exclusively by a qualified professional company that specializes in cleaning textile floor coverings. If in doubt, please consult the flooring manufacturer.

To prevent visible differences from appearing later, the entire surface should always undergo intensive cleaning.

Regardless of the cleaning method used, a test cleaning should generally be performed first.

The cleaning method must be selected taking into account the floor covering's construction, the type of installation, the subfloor construction, and the available drying time.

Depending on the degree of soiling of the textile floor covering, the methods can be combined.

The methods listed and described below for interim cleaning and deep cleaning are approved by the manufacturers participating in this technical data sheet, provided that the specific instructions for each method are followed.

Methods that deviate from these may result in irreversible damage to the flooring—even after a delay—and are therefore carried out solely at the risk of the cleaning professional (or cleaning service provider, as applicable) and without the manufacturers' approval.

Polymer-based “encapsulation methods” are not approved, as these methods cannot rule out the gradual formation of layers of residues—which may not be biodegradable—that could impair the flooring's performance.

6.2. Spot cleaning using partial spray extraction

**exclusively with a handheld upholstery vacuum nozzle
FOR WATER-SENSITIVE FLOOR COVERINGS, ADHESIVES, AND SUB-
FLOOR CONSTRUCTIONS (including raised floors, cavity floors, and climate-
controlled floors) INCLUDING UNDERLAYMENTS, OR THEIR JOINTS, ESPECIALLY
IN THE CASE OF WATER-/MOISTURE-RETAINING UNDERLAYS (e.g., felt or foam
underlays) AND WHEN A DRYING TIME OF AT LEAST 12 HOURS WITHOUT FOOT
TRAFFIC IS NOT POSSIBLE.**

Loose or lightly adhered dirt is vacuumed up using a brush vacuum cleaner as described in 4.1. After pre-treatment, spray a cleaning product with at least low surfactant content, designed for textile floor coverings, onto the surface of the flooring.

Using the upholstery vacuum hand nozzle (an accessory for a spray-extraction machine; not to be confused with a floor nozzle with an extension tube), the loosened dirt is extracted from the textile floor covering with clean water.

The instructions listed on the following page under “Important” must be reviewed for relevance, taken into account, and implemented before use.

6.2. Spot cleaning using partial spray extraction

exclusively with a handheld upholstery vacuum nozzle FOR WATER-SENSITIVE FLOOR COVERINGS, ADHESIVES, AND SUB-FLOOR CONSTRUCTIONS (including raised floors, cavity floors, and climate-controlled floors) INCLUDING UNDERLAYMENTS, OR THEIR JOINTS, ESPECIALLY IN THE CASE OF WATER-/MOISTURE-RETAINING UNDERLAYS (e.g., felt or foam underlays) AND WHEN A DRYING TIME OF AT LEAST 12 HOURS WITHOUT FOOT TRAFFIC IS NOT POSSIBLE.

Important!

- Care must be taken to ensure that no system-related residues remain in the textile floor covering when using this method, as these can alter the fiber surface and change the floor's tendency to re-soil. Polymer-based products are not approved in accordance with Section 5.
- Use water that is no warmer than lukewarm.
- Do not add any cleaning product to the spray-extraction machine. If a cleaning product is nevertheless added to the fresh water tank, rinse out any remaining cleaning agent residue in the textile floor covering with sufficient clear water.
- Rinse thoroughly with clear water.
Take care to minimize moisture exposure to the installed flooring; that is, careful and thorough, and, if necessary, repeated intensive vacuuming (extraction) using the upholstery nozzle of the spray-extraction machine without adding any additional liquid is absolutely essential.
- Drying time up to 12 hours. Do not walk on the treated area until it is completely dry.

6.2. Spot cleaning using partial spray extraction

exclusively with a handheld upholstery vacuum nozzle FOR WATER-SENSITIVE FLOOR COVERINGS, ADHESIVES, AND SUB-FLOOR CONSTRUCTIONS (including raised floors, cavity floors, and climate-controlled floors) INCLUDING UNDERLAYMENTS, OR THEIR JOINTS, ESPECIALLY IN THE CASE OF WATER-/MOISTURE-RETAINING UNDERLAYS (e.g., felt or foam underlays) AND WHEN A DRYING TIME OF AT LEAST 12 HOURS WITHOUT FOOT TRAFFIC IS NOT POSSIBLE.

- 6.2.1. Dusting with a brush vacuum cleaner in accordance with 4.1.
- 6.2.2. Stain removal in accordance with section 4.2.
- 6.2.3. Pre-spraying with a cleaning agent containing at least low levels of surfactants
- 6.2.4. Controlled rinsing with clear water at a maximum of lukewarm temperature using the upholstery suction hand nozzle (an accessory of a spray-extraction machine)
- 6.2.5. Careful and thorough, intensive suctioning, repeated if necessary extraction using the suction function of the upholstery suction hand nozzle without adding any additional liquid
- 6.2.6. After complete drying, repeat the extraction process as described in Section 4.1.
- 6.2.7. Drying time up to 12 hours. Do not walk on the treated area until it is completely dry.

6.4. The Thermoelectric Cleaning System

TEP-TOP-Clean®

TEP-TOP-Clean® is a system developed specifically and exclusively for intensive carpet cleaning.

Loose or lightly adhered dirt is vacuumed up using a brush vacuum cleaner in accordance with Section 4.1.

Following the pre-treatment, an environmentally friendly enzyme solution is applied evenly to the textile floor covering.

During the actual cleaning process, the dirt is loosened and absorbed by a special cleaning pad. Here, the design of the special cleaning machine—with a uniquely programmed rotation speed—ensures a constant heat build-up (thermoelectric) of approximately 30°C.

Finally, the textile flooring is vacuumed with a brush vacuum cleaner to raise the pile.

This method is recommended by all manufacturers and is ideal for proper care right from the start.

Please note the information listed on the following page under “Advantages” regarding, among other things, the sustainability, resource conservation, zero emissions, and cost-effectiveness of the TEP-TOP-Clean® system.

6.4. The Thermoelectric Cleaning System

TEP-TOP-Clean®

Advantages!

- No chemical residues thanks to the use of an enzyme-based cleaner tailored to the system
- No premature re-soiling
- Immediately walkable
- Conserves resources by saving approximately 96% of drinking water
- Zero emissions into indoor air, as measured in the European reference room of the Sentinel Haus Institute in accordance with EN 16516
- Significant reduction in the concentration of fine particulate matter indoors and improved dust-trapping capacity of textile floor coverings
- Ideal for use on moisture-sensitive flooring and subfloor systems, such as raised-access floor systems, climate-controlled floors, and reusable modular systems (tiles, panels, planks, etc.) with a high proportion of joints and underlayments
- Cost-effectiveness and sustainability through reduced operating costs

6.4. The Thermoelectric Cleaning System

TEP-TOP-Clean®

- 6.4.1. Dust removal using a brush vacuum cleaner as described in Section 4.1.
- 6.4.2. Stain removal as described in Section 4.2.
- 6.4.3. Spraying the product using an electric spray pump with consistent spray pressure.
- 6.4.4. Treat the entire surface with a thermoelectric cleaning machine and cleaning pads, in conjunction with any necessary follow-up stain removal as described in Section 4.2.
- 6.4.5. Vacuuming as described in Section 4.1.

7. FIBER FINISHING EQUIPMENT

Retroactive fiber treatments can damage the flooring and/or cause dirt residues to become permanently embedded, and are therefore not approved by the manufacturers participating in this technical bulletin.

8. STEAM CLEANER

The use of steam cleaners is also not permitted.

The temperatures exerted on the surface of the flooring when using such devices can cause irreversible color damage.

In particular, for textile floor coverings with a high natural fiber content (e.g., wool), the high temperatures generated by steam cleaners can lead to irreversible fiber damage.

Proper dirt removal is not possible with these methods anyway.

9. SUSTAINABILITY & HEALTH

Sustainability is a guiding principle for resource use that aims to permanently ensure or support the preservation of the natural regenerative capacity of all relevant systems (ecological, economic, and sociocultural) and the maintenance of the health of all life.

A central component of sustainability is value retention, as an extended service life and the possibility of reuse (REUSE) contribute significantly to resource conservation and the reduction of CO₂ emissions.

Through its work, the werterhalt.org working group advocates for precisely this holistic understanding and brings together the necessary expertise across the entire life cycle of textile floor coverings—from use and value retention to REUSE concepts.

This fact sheet calls for the responsible use of resources, actively preserving value, and keeping indoor spaces as free as possible from harmful emissions.

At the same time, these measures make an important contribution to reducing CO₂ emissions and conserving water. Furthermore, they help meet the requirements of green building certification systems (e.g., DGNB, LEED, BREEAM), particularly in the areas of resource conservation, indoor air quality, and life-cycle assessment. The werterhalt.org working group calls for the following:

- Use cleaning methods that, while delivering the same performance, result in the lowest resource and water consumption and CO₂ emissions
- Minimize the use of chemical cleaning agents
- Ensure the long-term preservation of value and the service life of textile floor coverings through a maintenance plan that is planned early and consistently implemented
- Actively promote the conditions for REUSE through proper care and maintenance



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9. SUSTAINABILITY & HEALTH

As a general rule:

- When selecting cleaning methods and products, consider that, in addition to the immediate cleaning results, potential system-related residues—including their short- and long-term effects on material properties, the rate of re-soiling, and their impact on the indoor environment—must also be evaluated.
- Give preference to resource-efficient and low-emission methods
- Use and dose cleaning agents selectively and according to need
- Plan maintenance and cleaning measures for the long term from the outset (when selecting carpeting) rather than reacting after the fact
- Understand that preserving value is the foundation for extended use and potential REUSE (reuse)
- Maintain textile floor coverings from the outset in such a way that their suitability for REUSE is preserved as fully as possible
- Minimize water and energy use to sustainably reduce CO₂ emissions
- Always consider the impacts on indoor climate, user health, and building certifications



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