TECHNICAL SPECIFICATION

ISO/TS 21868

First edition
2021-06

Textile floor coverings — State of the art and guidance on maintenance and cleaning

Revêtements de sol textiles — Etat de l'art et recommandations relatives à l'entretien et au nettoyage

Reference number
ISO/TS 21868:2021(E)

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Published in Switzerland

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 219, *Floor coverings.*

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document is designed for global governments, relative enterprise associations and textile floor covering maintenance and cleaning enterprises to develop their own specific textile floor covering maintenance and cleaning standards or procedures in accordance with the local conditions. Due to diversity of different regions in climates, customs and developing levels in the world, it is extremely difficult to create a specific textile floor covering maintenance and cleaning standard as a template which is globally workable. In addition, the factors which impact the result of cleaning are so abundant and the combinations of these factors so tremendous that particular programmes are necessary to acquire the best result of textile floor covering cleaning.

This guidance standard manages to list all the factors which affect the final results of cleaning, against which global governments, relative enterprises associations and textile floor covering maintenance and cleaning enterprises are able to establish the above-mentioned particular programmes (procedures or criteria) in their standards accordingly. Therefore, this standard is intended to be used by end-users to perform any specific maintenance and cleaning jobs.

This comprehensive guidance standard is intended to pave the way for global governments and relative enterprise associations to establish specific standards for:

— regulating the development of the textile floor covering cleaning industry,

— promoting the development of the textile floor covering cleaning detergent and equipment industry,

— improving textile floor covering cleaning techniques, and

— improving sales of textile floor coverings,

since specific textile floor covering maintenance and cleaning standards are still absent in most nations.

NOTE The term "textile floor coverings" applies to wall to wall carpets, broadloom carpets, rugs, mat and tile carpets.

Textile floor coverings — State of the art and guidance on maintenance and cleaning

1 Scope

This document specifies guidelines for the development of specific textile floor covering maintenance and cleaning standards, procedures and criteria to reflect locally specific conditions. This document specifies the factors which are likely to impact the final results of textile floor covering cleaning, defining maintenance and cleaning terms to highlight differences. It establishes low-cost, non-residue and environmentally-friendly guidance for textile floor covering maintenance and cleaning under the premise of maximizing the use value of textile floor covering.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
soil
any matter that is foreign to the construction of the textile floor covering

3.2
spill
wet, dry, oily or combination states of matter that are accidentally deposited on the textile floor covering

Note 1 to entry: Depending on the composition of the spill, quick response time and cleaning procedures can assist in minimizing the probability of it becoming a spot or a stain.

3.3
spot
foreign material on the surface of a fibre, usually changing the texture of the fibre

EXAMPLE Sticky, oily, greasy, stiff.

Note 1 to entry: Spots can usually be removed. However, some spots, if left untreated for too long, can become stains.

3.4
stain
indication of the addition of colour, frequently in liquid or pigment form that has been strongly attracted to the textile floor covering fibre

Note 1 to entry: This added dye or pigment can bind to a dye site and actually alter the structure of the fibre. Not all stains respond positively to removal efforts.

3.5
interim cleaning
removal of topical appearance soil from textile flooring and return of the textile floor covering to a dry and usable state within a short period of time

3.6
restorative cleaning
thorough removal of soil both on the textile floor covering surface and embedded within the textile floor covering construction

4 Maintenance

4.1 General

Maintenance is the protection of textile floor coverings, vacuuming and timely removal of spills and dust which can be operated by non-professionals. Textile floor covering maintenance requires a user to develop a maintenance programme, which can be provided with the help of the textile floor covering manufacturer or provided or assisted by a contracted textile floor covering cleaner.

The significance of textile floor covering maintenance is that it is the first key step in extending the service life of the textile floor covering, and the simplest and most economical and effective means of preventing the textile floor covering from being soiled.

4.2 Maintenance plan

The maintenance includes:

— Laying of door mats, which are for scraping soil and absorbing moisture. Pay attention to the length of door mats to prevent people from stepping over them. If necessary, a reminder for scraping shoes is recommended in case the door mat is too small.

— Timely removal of spills.

— Division of the textile floor coverings regions based on varying traffic frequency and varying functions to formulate a vacuum cycle accordingly.

— Protection of the textile floor coverings during the laying and maintenance of other flooring materials and furniture nearby.

— Provision of temporary or permanent convenient bins and ashtrays in special function areas.

— Controlling of the dehumidification equipment to maintain the necessary dryness to prevent the room from developing mildew.

The maintenance programme should be discussed and made when customizing the textile floor coverings with the assistance of the textile floor covering manufacturer or professional textile floor covering cleaner to match the overall interior space design.

5 Cleaning

5.1 General

Cleaning is the process of locating, identifying, containing, removing and properly disposing of soil, performed by professionals with professional equipment and under standard programmes.

Cleaning requires professional personnel and equipment to be implemented in accordance with professional programmes. Either interim cleaning or restorative cleaning, professional personnel, professional equipment and conformant procedures are necessary. Cleaning is mostly likely to be

conducted by an independent service provider, either a professional cleaning service company or the manufacturer, other than the user, unless the user keeps a professional team with professional equipment, cleaning agents and a professional programme.

5.2 The principle of cleaning

The principles of cleaning are:

— Restoring the use value of textile floor coverings.

— Green environmental protection before and after cleaning.

— Having practices which are harmless to practitioners and users.

— Maintaining or restoring special properties attached to textile floor coverings, including but not limited to fire proof post-treatment and anti-static post-treatment.

At the same time, it should be clear that cleaning a textile floor covering is not to transform the textile floor covering into a new one, but to remove the soil on the textile floor covering as completely as possible, and if necessary, repairs can be performed. Even after professional cleaning, it is possible that damage will not be able to be reversed due to permanent changes of colour or fibre.

5.3 Personnel training

Qualified and professional personnel are prerequisites for ensuring cleaning quality, cleaning personnel safety and environmental protection. Cleaning personnel shall be professionally trained by a professional company or organization before going on duty. The training shall cover not only cleaning, but also textile floor covering quality, laying and repairing.

5.4 Cleaning Steps

5.4.1 Identification

5.4.1.1 General

Identification is the most important step in a textile floor covering cleaning process and a complete identification of the factors which affect the cleaning result is required for the development of cleaning standards or individual cleaning programmes.

5.4.1.2 Identification of textile floor covering appearance and defects

Observe the overall state of the textile floor covering appearance and search for defects. Locate the spill, spot and stain. Ask the textile floor covering user about the textile floor covering laying time, the time and manner of the most recent cleaning, and ask the textile floor covering user for a textile floor covering maintenance programme and its relative execution record if the user has this, in order to determine roughly how to clean it.

5.4.1.3 Identification of textile floor covering laying quality

The laying quality defects mentioned below will directly lead to defects in cleaning results:

a) If the textile floor covering is not stretched tightly and results in surface wrinkles, during the cleaning process, the textile floor covering surface can show watermark and shadow after cleaning and even damage to part of the textile floor covering pile.

b) If the edge of the textile floor covering is unevenly trimmed, leading lead to burrs, during the cleaning process, the pile can be pulled out, seriously damaging the textile floor covering.

c) If the textile floor covering is not fixed firmly, during the cleaning process, the textile floor covering can shrink and cause crevices.

d) If the textile floor covering is not spliced strongly, the textile floor covering seam will crack after drying.

5.4.1.4 Identification of the textile floor covering surroundings

Identify adjacent furniture, equipment, floor coverings and the building itself to avoid any damage, harm or electric shock when on-site cleaning is conducted.

5.4.1.5 Identification of climate and season

Identifying local climate and seasons is necessary to restore the qualified water content of the textile floor covering after cleaning in time.

5.4.1.6 Identification of special textile floor covering function

Determine whether the textile floor covering has special functions in a special functional area. Post-treatment of fire-proof and anti-static functions shall be maintained or restored after cleaning. Special attention should be drawn to these special locations, such as laboratories, hospitals, workshops for electronic devices and elevators, as well as certain special functional areas of a hotel. For example, static electricity can damage elevators; being fire-proof can be a requirement for an area in a hotel where smoking is permitted permanently or temporarily.

5.4.1.7 Identification of product quality

a) Ask textile floor covering users for product labels and cleaning instructions from textile floor covering manufacturers.

b) Determine the material of the textile floor covering pile (see Table 1), the type of pile, the length of pile, the pile weight.

c) Determine the structure of the textile floor covering formation: hand-knotted, hand-tufted, semi-handmade, machine made, etc.

d) Determine whether the formation of textile floor coverings and the adhesive (if any) adapts to washing, and the times of washing.

e) Determine the physical and chemical properties of the base material.

f) Determine if there are post-treatments, such as fireproof post-treatment and/or anti-static post-treatment, to ensure that cleaning does not compromise the special properties, or completely restore these properties by reprocessing the post treatments.

Table 1 — Fibre identification burn test

Fibre	Burning	Withdrawn from flame	Flame colour	Smoke	Odour	Residue
Cotton, rayon	Burns readily and quickly	Continues to burn	Yellow	White	Burning paper	Soft grey ash
Linen	Burns readily	Continues to burn	Orange	White	Burning grass	Grey ash, skeleton of fabric
Wool	Burns slowly	Self-extinguish-ing	Does not flare up	White	Burning hair	Black brittle swollen ash
Silk	Burns slowly	Self-extinguish-ing	Does not flare up	White	Burning hair	Burns to black ash

Table 1 *(continued)*

Fibre	Burning	Withdrawn from flame	Flame colour	Smoke	Odour	Residue
Polyester	Burns and melts	Continues to burn and melt	Red/yellow	Black	Pleasant, distinctive	Dark, hard bead
Nylon	Burns slowly and melts	Often self-extinguishing	Yellow	White	Burning wax	Light coloured or fawn hard bead
Acrylic	Burns and melts	Continues to burn and melt	Luminous red smoky flame	Black	Acrid, charred meat	Brittle black bead
Polypropyl-ene	Burns and melts	Burns and melts	Yellow	Light grey	Asphalt paraffin	Tough, hard, dark

5.4.1.8 Identification of the cleaning objectives

a) Appearance identification method: identify the material by observing the appearance of the soil, for example: various food juices, paint stains, etc.

b) Colour identification method: Identify the material by unique colour of the soil, such as ink, dye, paint, blood stains, etc.

c) Sensory identification method: Identify the material by hand feeling and observation, such as sugar stains and glue. This should rely on the accumulation of long-term experience and knowledge.

d) Location identification method: Identify soil based on its location.

e) Odour identification method: Identify soil based on the unique smell of soil, such as perfume, wine, chewing gum, etc.

f) Chemical testing: For particularly expensive textile floor coverings, laboratory chemical methods should be used for identification if necessary.

g) Ask for the customs of using textile floor covering; in case of close touch with human being, especially with bare skin, inactivation is necessary.

It is necessary to identify the states of soil according to the classification of the three types defined above, i.e. spill, spot and stain. Spill, spot and stain removal chemicals shall be of a type that does not harm textile floor coverings when used in accordance with the chemical manufacturer's recommendations.

See Table 2 for the types of soil and the relative detergent categories of disposal.

Table 2 — Soil guide

	Acid Deter-gent	Neutral Deter-gent	Alkaline Deter-gent	Citrus Deter-gent	Oxidizer	Enzyme Deter-gent	Rust Remover	Dry Vacuum
Blood		①			②		③	
Browning (cellulosic)	①				②			
Chewing gum				①				
Coffee	②	①		⑤	④	③		
Cola	①					②		
Copler toner					④			①②③
Grease & oil				①				
Ice melt build up	②							①
Ink (waterbased)			①	②	③			
Marker				①	②			

Table 2 *(continued)*

	Acid Detergent	Neutral Detergent	Alkaline Detergent	Citrus Detergent	Oxidizer	Enzyme Detergent	Rust Remover	Dry Vacuum
Milk						①		
Mustard	②	①			④	③		
Nail polish	②			①	③			
Paint (oil-based)				①	②			
Paint (latex)		②		①				
Rust			②				①	
Urine	①				③	②		
Vomit			①		③	②		
① Step One ② Step Two (if necessary) ③ Step Three (if necessary) ④ Step Four (if necessary) ⑤ Step Five (if necessary)								
CAUTION — Textile floor covering cleaning and maintenance enterprises shall fix specific formula and concentration after identifying product quality and cleaning objectives to ensure no harm to the textile floor covering, cleaning practitioners and environment. If detergents are purchased from detergent suppliers, textile floor covering cleaning and maintenance enterprises shall follow the instructions for that detergent. If necessary, a test on a small part of the textile floor covering shall be performed prior to the cleaning operation to ensure the safety and applicability of the detergent.								

5.4.1.9 Identification of allergy patient and weak human beings

This subclause concerns allergy patient or weak human being in hospital, kindergarten, baby nursing homes and senior nursing centres. Less chemical detergent usage, no residue and inactivation can be considered. For allergy patients, the relative allergens shall be clarified before cleaning to avoid any allergenic chemical detergent and/or thorough inactivation of the allergenic living organism shall be carried out to protect users' health and safety.

5.4.1.10 Note and confirmation

The above identification should be recorded. In particular, the results of laying quality defects and other textile floor covering defect identification as well as the results of soil identification should be confirmed by the textile floor covering user.

5.4.2 Formulating a cleaning programme

The programme for cleaning equipment, detergent, techniques and processes will be made based on the aforementioned identification of textile floor covering appearance, laying quality, laying environment, climate and season, textile floor covering special function, textile floor covering quality, type of soil and allergy patient and weak human beings. This document introduces existing cleaning methods in the market for reference in Annex A.

However, this document does not constitute any endorsement of these methods. The maximum recovery of textile floor coverings using good-value, low-cost, non-residue, green environmental cleaning methods and processes is the future development direction identified by this document.

Textile floor covering fibres are chemically sensitive and are easily damaged by chemicals or excessive agitation. Regardless of the cleaning of spots and stains, attention should be paid to the cleaning method and chemical selection. Before starting the operation, select inconspicuous areas and conduct small-scale trial tests on all materials and colours of textile floor covering pile to determine whether the selected method and chemical substance is applicable.

5.4.3 Inspection of equipment

Qualified and well-functioning equipment is necessary to ensure the safety of the cleaning process, environmental protection and personnel safety as well as the cleaning results. Equipment testing procedures should follow the testing and usage procedures provided by the equipment manufacturer.

5.4.4 Protection of surroundings, the environment and human beings

Cleaning shall be in accordance with the following requirements:

— It shall not damage the quality of furniture, equipment, buildings or air quality in the textile floor covering furnishings space.

— Recycling and treatment of sewage shall not harm the environment.

— The detergent, equipment, waste water and waste gases produced in the cleaning process should not be harmful to the operators, nearby personnel and the following users.

5.5 Inspection of cleaning results and relevant standards

5.5.1 Evaluation of external quality of cleaning

a) Appearance recovery: including colour recovery, pile direction recovery and original elastic recovery, disappearance or significant reduction of soil.

b) Textile floor coverings integrity: no deformation, no shrinkage, no wrinkle, no cracks, no watermark, no discoloration, no decolourization, no degumming, no odour, no pile shedding, no hardening, no sticky feeling, no greasy feeling, no mildew and no pile direction mess.

5.5.2 Evaluation of internal quality of cleaning

a) The humidity should be restored to 25 % at the latest 12 hours after textile floor covering cleaning to prevent odour and mildew in indoor environments with humidity control.

b) The humidity of the environment should also be restored to the level before the textile floor covering is cleaned for places where strict environmental humidity is required.

c) Low residue or no residue.

d) Neutral pH value.

e) Fireproof and/or anti-static post-treatment shall be restored by new treatment(s) after water cleaning.

f) Inactivation. Do not recommend lab test if the programme of inactivation in cleaning is strictly followed and noted.

Annex A
(informative)

Method of maintenance and cleaning

A.1 Dry vacuuming

Effective, routine vacuuming is required for good commercial textile floor covering performance, so a proper vacuuming programme is essential in a well-designed maintenance programme. The most important aspect of a vacuuming maintenance programme is identifying high, medium and low traffic areas by continually monitoring textile floor covering performance and making any necessary adjustments to the schedule.

To protect the indoor air quality, keep all indoor surfaces as clean as possible by vacuum cleaning without putting dust back into the air. In selecting a vacuum cleaner for maximum effectiveness, use a vacuum cleaner that has adjustable and rotating brushes that are able to loosen ground-in soil, and strong enough airflow to penetrate to the backing, extracting all particles. The vacuum cleaner shall have an enclosed, high filtration bag that limits particles from re-circulating back into the air.

For the best results, no matter which type of vacuum cleaner is used, inspect it periodically to be sure it is functioning properly.

Follow the vacuum cleaner manufacturer's instructions and change the vacuum bag when it becomes more than half full. As the bag becomes full, efficiency is reduced.

Once the vacuum equipment has been selected, set a schedule for frequency of vacuuming. Using the facility diagram, classify textile floor covering areas into high traffic, moderate traffic, and light traffic areas. High traffic areas should be vacuumed daily or more frequently as the need arises. Moderate traffic areas should be vacuumed on average two to three times a week. Light traffic areas should be vacuumed as needed or usually once a week.

Usually high traffic areas include: entrances, hallways, break rooms, cafeterias, corridors, elevator/lift lobbies, stairways, main aisles, waiting areas.

Moderate traffic areas include: Secondary aisles, research areas, classrooms, conference rooms, and atriums.

Light traffic areas include: Offices, cubicles, storage rooms, and executive areas.

Remember: Routine vacuuming is the most important part of any maintenance programme.

A.2 Interim cleaning methods

A.2.1 General

Interim cleaning is a drying cleaning process to remove minor soiling mostly on the surface of the textile floor covering fibre.

A.2.2 Dry compound cleaning method

The textile floor covering should be thoroughly vacuumed prior to cleaning to remove dry soil.

In applying the dry compound, the following points are required:

— The appropriate equipment shall be on hand to suit the particular product or system.

— An adequate supply of the dry compound.

— A means of uniformly distributing the dry compound across the use-surface of the textile floor covering. Mechanical spreading devices are available commercially.

— A means of agitating the dry compound into the surface. A groomer with plastic tines is commonly used on small areas. For larger areas, special nylon bristled brushes are available which have a special fibre configuration for distributing the compound evenly within the surface and for promoting the cleansing action.

— Apply the dry compound as directed by the manufacturer and agitate it into the surface with the recommended equipment. Only a small area is required be treated at one time, commencing at the furthest point in a room and working towards the door.

— Allow the compound to dry for the period recommended by the manufacturer.

— Remove the dried compound from and within the surface with an efficient vacuum cleaner. Use of an upright vacuum cleaner fitted with an efficient power-driven brush is strongly recommended.

— Vacuum the area in one direction and then re-vacuum at right angles. Several passes of the vacuum cleaner will be needed to remove all dry compound from deep within the surface of the textile floor covering.

— Inspect the surface to ensure that the majority of the dry compound has been removed. Dry compound left within the surface can possibly subsequently absorb unwanted materials, including odorous materials, causing background odours in the cleaned area and impacted product.

In areas where soiling rapidly builds up, such as entrances, a regiment of hot water extraction and speed drying is recommended

A.2.3 Bonnet (absorbent) pad cleaning method

The textile floor covering should be thoroughly vacuumed prior to cleaning to remove dry soil.

Although not completely dry, bonnet cleaning is considered a low moisture textile floor covering cleaning system. The purpose of this system is to apply a cleaning agent to the textile floor covering with a soft pad or bonnet. Once the textile floor covering dries, dry vacuuming removes soils and residues.

Bonnet cleaning is accomplished by spraying a detergent solution over the face of the textile floor covering. This can be done with hand pump type sprayers, power sprayers, CO_2 (carbon dioxide) pressure tanks or specialized spray systems attached to the floor machine.

Even distribution of the cleaning agent is accomplished by using a low-speed rotary machine (175 – 300 RPM), which rotates a bonnet made of cotton or other similar absorbent materials. The cleaning agent provides proper lubrication during agitation and should be used as recommended by the product manufacturer.

The soil is absorbed into the cotton pads. The cotton pads are turned over and changed or rinsed when they stop absorbing soil. They shall be thoroughly laundered prior to the next job.

Pile setting or grooming is highly recommended following bonnet cleaning to decrease drying time, remove distortion and optimize appearance. In all cases, pile setting shall be accomplished for uniform distribution if post-cleaning treatments are used.

A.2.4 Dry foam cleaning method

The textile floor covering should be thoroughly vacuumed prior to cleaning to remove dry soil.

This method is a minimum moisture method. A dense foam is produced through mechanical aeration and distributed via a mechanical brush in a specialized dry foam machine. The excess foam and suspended soil is extracted using a wet vacuum typically incorporated into the same machine.

It is advisable to pre-treat heavily soiled areas with a pre-conditioner:

a) Following the manufacturers label directions, a properly diluted dry foam-cleaning agent is used. The solution is aerated with mechanical agitation into a dense foam by the machine.

b) Both pre-conditioners and the concentrated dry foam-cleaning product can be mixed with hot water increasing solution temperature and speeding soil suspension.

c) Agitation is achieved during or immediately after the application of the dry foam. To provide proper lubrication during agitation, the product manufacturer's recommended dilutions shall be observed.

d) A wet vacuum attached to or separate from the application machine can be used to extract excess foam with suspended soil. Additional dry vacuuming procedures can also be used after the textile floor covering has dried to extract crystallized detergent residue along with attached soil.

e) Pile setting or grooming is highly recommended following dry foam cleaning to decrease drying times, remove distortion and optimize appearance. Usage of drying equipment is highly recommended to shorten the time of drying, if necessary, use ventilation or air conditioner to adjust air humidity.

f) Water based shampoo that dries to a non-tacky residue is strongly recommended.

Pile setting is required if using post-cleaning treatments.

CAUTION — This cleaning process will leave high residual in textile floor covering. Frequent usage will cause textile floor covering hardening, colour change and smell, and will badly damage the durability of the textile floor covering.

A.2.5 Shampoo cleaning method

The textile floor covering should be thoroughly vacuumed prior to cleaning to remove dry soil.

With this method a shampoo is distributed to the floor covering either as a pre-treatment or via a solution feed during the cleaning process. The shampoo and suspended soil can be extracted by following with a wet vacuum process or by waiting for the textile floor covering to dry and using a dry vacuuming process.

The recommended equipment for agitation of a shampoo is a low-speed rotary machine (175 – 300 RPM) with a "broken-in" brush designed for agitation of commercial textile floor covering.

The procedure for using this method is as follows:

— Apply a recommended dilution of shampoo and water to the textile floor covering. The rotating brush agitates the solution into the surface of the textile floor covering. A dense, wet foam shall be generated to accomplish cleaning and lubrication.

CAUTION — The textile floor covering shall be lubricated with the shampoo when using this method. Running a rotary brush on a dry textile floor covering can cause a permanent distortion of the textile floor covering face.

Immediately wet vacuum the suspended soil solution using wet vacuum equipment designed for this purpose.

Pile setting or grooming is highly recommended following shampooing to decrease drying time, remove distortion and optimize appearance. In all cases, pile setting shall be accomplished for uniform distribution if post-cleaning treatments are used. Drying equipment is highly recommended to shorten the time needed, if necessary, use ventilation and air conditioner to adjust air humidity.

CAUTION — This cleaning process will leave high residual in textile floor covering. Frequent usage will cause textile floor covering hardening, colour change and smell, and will badly damage the durability of the textile floor covering.

A.2.6 Encapsulation cleaning method

This method applies to textile floor covering for which the surface is comparatively clean. The textile floor covering should be thoroughly vacuumed prior to cleaning to remove dry soil.

A specialized cleaning agent is applied to the textile floor covering by spraying the detergent solution over the face of the textile floor covering. This can be accomplished with hand pump type sprayers, power sprayers, CO_2 (carbon dioxide) pressure tanks or specialized spray systems.

The encapsulating formula can also be agitated into the textile floor covering fibre with a bonnet, specialized encapsulating equipment or with a broken-in rotating brush from a low-speed rotary machine (175 – 300 RPM).

Soil is dislodged and captured in the drying process and dry vacuuming removes soils and residues.

Thoroughly dry vacuum when the textile floor covering dries.

CAUTION — The textile floor covering shall be lubricated with the encapsulate formula when using this method. Running a rotary brush on a dry textile floor covering can possibly cause a permanent distortion of the textile floor covering face.

A.3 Restorative cleaning methods

A.3.1 General

Restorative cleaning is a scheduled frequent deep-cleaning process to remove deeper residues and trapped soils.

A.3.2 Hot water extraction cleaning method

The area to be cleaned shall be thoroughly vacuumed before any type of cleaning method is used.

A pre-conditioner should be applied to the heavy traffic areas by using a pressure sprayer with a pre-mixed pre-conditioner solution prior to the application of the hot water extraction method. To avoid over wetting, follow the formulator's directions as to coverage.

Following the pre-conditioner application, agitation should be accomplished by hand brushing or mechanical brush action. Additional agitation is achieved during the injection phase using solution water pressure.

The pre-conditioner should remain on the area for approximately 10 to 15 minutes (dwell time) for uniform soil suspension.

Following pre-conditioning and agitation, the soils are dislodged or flushed out of the textile floor covering with controlled jets of detergent solution (or hot water) sprayed under pressure and immediately recovered by a wet vacuum into a separate receptacle.

Multiple wet passes can possibly be required to rinse suspended soil from the base of the yarns; however, avoid over wetting. Additional dry extraction passes reduce moisture levels and minimize drying time.

Moisture recovery rate is dependent upon fibre type, textile floor covering construction, function of equipment design, hose diameter and proximity of the vacuum motor to the textile floor covering. Performance depends on the total system used, along with the skill of the operator.

All extracted solutions shall be disposed of according to local and national regulations.

When properly performed, the textile floor covering should be dry within six to eight hours. Humidity or environmental conditions can possibly extend drying time, but under no circumstances should drying time exceed 12 hours.