Floor Care in Healthcare settings

INSTRUCTIONS

Keeping hospitals clean is a crucial patient safety issue. Appropriate cleaning protocol is an important part of an overall strategy to reduce the risk of health-care-associated infections (HAIs).

Cleanability and chemical resistance are the two most important criteria to take into consideration when selecting interior materials and finishes.

Selecting the right cleaning product and equipment is just as important as the training of cleaners for an efficient cleaning.

Tarkett

1. HEALTHCARE DESIGN REQUIREMENTS

Health care settings must ensure that all selected surfaces, finishes, furnishings and equipment are:

- Cleanable
- Compatible with the hospital disinfectants used by the health care setting

When selecting floorings for use in clinical areas within health care settings, following characteristics are recommended:

- **Smooth & non porous** surface with minimal joints to prevent dirt build up
- **Watertight** installation with perfect coving and hot welded joints which provides durability
- **Resistance to repeated use of disinfectants** such as Quaternary Ammonium, Alcohol, Bleach, Hydrogen Peroxide…
- **Easy to repair** material. In case of damage, fix on the spot and secure tightness without changing the whole floor

2. FLOOR CLEANING

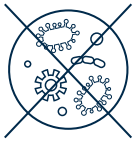
Floor cleaning consists of:

- dry dust mopping to remove dust and debris
- damp mopping with a detergent to clean.

Floors are low-touch surfaces that rarely come in contact with the hands of patients/residents or health care providers. **Disinfection should be considered according to the area risk level and in case of outbreak situation.**

Cleaning is the removal of foreign material (e.g., dust, soil, organic material such as blood, secretions, excretions and microorganisms) from the surface. Prompt removal of spots and spills of blood and body substance is crucial.

Cleaning does not necessarily kill germs, but by removing them, it lowers their numbers and the risk of spreading infection.



Disinfection is a process used to kill microorganisms. When using a disinfectant, it is most important that the floor be free from visible soil and other items that might interfere with the action of the disinfectant.

Disinfection should be considered according to the area risk level and in case of outbreak situation.

! Most disinfectants lose their effectiveness rapidly in the presence of organic matter.

3. CLEANING GUIDELINES

The determination of cleaning procedures including frequency, method, and process, should be based on the risk of pathogen transmission (infectious risk level). Cleaning practices can vary from one hospital to another in terms of products, equipment used and frequency. Here are some after some general recommendations.

GENERAL RECOMMENDATIONS ACCORDING TO THE INFECTIOUS RISK LEVEL

		INFECTIOUS RISK LEVEL				OUTBREAK SITUATIONS*
		1 LOW RISK = No patient care Entrance, Office areas, Technical logistics area…	2 MEDIUM RISK = Patient care with no invasive practice Consulting rooms, Maternity, Patient rooms, Sterilized material storage…	3 SERIOUS RISK = Patient care with invasive practices Operating theater, Emergency rooms, Intensive care units, Pediatrics, Interventional radiology…	4 VERY HIGH RISK = Patient care with high risk invasive practices High risk operating theater, Burn unit, Immunocompromised hematology/oncology, Isolation rooms…	CLOSTRIDIUM DIFFICILE, NOROVIRUS, SARS-COV2,…
DAILY CLEANING		**Dust removal** Remove dust and dirt with microfiber mop or impregnated wipe	**Dust removal** Remove dust and dirt with microfiber mop or impregnated wipe	–	–	–
DAILY CLEANING		**Manual cleaning** Damp mopping with a flat or microfiber mop or **Mechanical cleaning** Small combined machine for large areas + Red or microfiber pad	**Manual cleaning** Damp mopping with a pre-impregnated microfiber mop or **Mechanical cleaning** Small combined machine for large areas + Red or microfiber pad	**Manual cleaning** Damp mopping with a pre-impregnated microfiber mop – –	**Manual cleaning** Damp mopping with a pre-impregnated microfiber mop – –	**Manual cleaning** Damp mopping with disposable mop
DAILY CLEANING		Neutral detergent pH 7/8	Neutral detergent pH 7/8	Neutral detergent pH7/8 + Disinfectant detergent	Neutral detergent pH7/8 + Disinfectant detergent or Disinfectant	Neutral detergent pH 7/8 + appropriate Disinfectant (sporicidal or virucidal) or 0.5% Sodium hypochlorite
DAILY CLEANING		Daily	Daily	At least 2/per day	After each operation	Daily
PERIODICAL CLEANING		**Scrubbing** Low speed machine (165 to 330 rpm) + Red pad + Alkaline detergent pH9/10	**Scrubbing** Low speed machine (165 to 330 rpm) + Red pad +Alkaline detergent pH9/10	Shutdown required for periodical cleaning	Shutdown required for periodical cleaning	–
PERIODICAL CLEANING		Surface restoration for iQ Very high speed machine (1000rpm) + Red pad	Surface restoration for iQ Very high speed machine (1000rpm) + Red pad	–	–	–

*In the occurrence of an outbreak most cleaning guidelines recommended:
- Paying particular attention to frequently touched surfaces (doorknobs, tabletops, light switches, handrails, elevator buttons,...) which should be cleaned as often as possible (at least daily and if possible more frequently).
- The use of a neutral detergent for the cleaning of surfaces in general premises
- In suspected and contaminated areas : Daily use of Neutral detergent AND appropriate disinfectant OR 0.5% sodium hypochlorite.

RECOMMENDED PRODUCTS

All of these products are compatible with Tarkett floors and have been tested by us.

	DIVERSEY	ECOLAB	KHIEL	WERNER & MERTZ
NEUTRAL DETERGENT	TASKI JONTEC 300	MAXX MAGIC 2	ECONA	AROMA FRESH
ALKALINE DETERGENT	TASKI JONTEC FORWARD	MAXX MAGIC 2	ECONA	SUPERCLEANER
DISINFECTANT DETERGENT*	OXIVIR EXCEL (Accelarated Hydrogen Peroxide) TASKI SPRINT DEGERM (Quaternary ammonium)	DIESIN PRO (Quaternary ammonium)	DESINET (Quaternary ammonium)	CLEAN BACTO (Quaternary ammonium)

*Refer to manufacturer's recommendation regarding antimicrobial activity dilution and contact time.

4. CHEMICAL RESISTANCE

			AFTER 2H EXPOSURE		
			Homogeneous vinyl		Heterogeneous vinyl
			iQ	Eclipse Premium	Platinium & Excellence
ALCOHOLS (contained in Hand Sanitizers)	Ethanol C_2H_5OH	>98%	0	2	0
	Isopropanol C_3H_8O	>98%	0	0	0
ANTISEPTICS AND DISINFECTANTS	Eosin	1%	0	2	3
	PVP-I (Povidone-iodine) - Betadine yellow bottle	10%	0	0	1
	PVP-AI (Povidone-Alcoholic iodine) - Betadine Orange bottle	5%	0	2	3
	PVP-I Scrub - Betadine Red bottle	7.5%	0	0	0
	Chlorhexidine gluconate	0.5%	0	0	0
	Chlorhexidine gluconate Alcohol (Hibitane Plus)	5%	0	0	0
	Chrohexidine digluconate (Hibiscrub)	4%	0	0	0
	Sodium hypochlorite (Bleach)	0.5% (active chlorine)	0	0	0
	Hydrogen peroxide H_2O_2	30%	0	0	0

The test is based on the EN 423 / EN ISO 26987 norm.
0 > Not affected
1 > Slightly affected
2 > Moderately affected
3 > Intensely affected

5. GREEN CLEANING

Concerns about adverse human and environmental health effects of cleaning and disinfectants have led to the development of "green" methodologies. There is an emerging trend toward cleaning protocols using less chemicals such **as steam and microfiber mops for environmental cleaning** as alternatives to conventional cleaning methods.
Education of the cleaning staff is paramount to the success of these new cleaning methods.

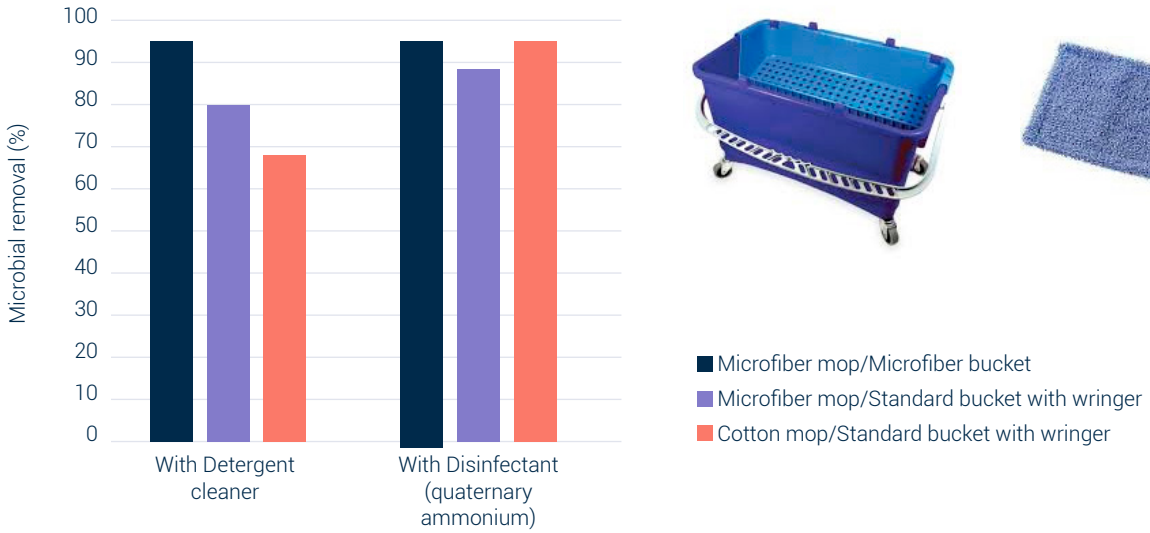
Tarkett pay a particular attention to these environmental cleaning promising approaches that are in line with our sustainable strategy. Our Tarkett human-conscious design™ puts people and the environment at the heart of our developments, to minimise our impact on the planet.

MICROFIBER

Microfibers are less work-intensive than conventional mops and drastically reduce chemical and water use while cleaning more effectively.
Microfibers are densely constructed nylon fibres that are one-sixteenth the size of a human hair. Because of their extremely small size and density, these fibres can hold up to six times their weight in water making them much more absorbent than standard cotton-loop mops.
And because as the fibers have a positive charge, they attract dirt particles to the mop, facilitating an improved cleaning performance compared to traditional cotton mop.

Microbiologic evaluation of microber mops for surface disinfection

William A Rutala, Maria F Gergen, Davis J Weber



In this study, the microfiber system demonstrated superior microbial removal compared with cotton string mops when used with a detergent cleaner.
The use of a disinfectant did not improve the microbial elimination demonstrated by the microfiber system.
The use of a microfiber mop with a detergent cleaner reaches equivalent performance than with a traditional cotton mop with disinfectant!

Some microfibers manufacturers assessed their products in accordance with the EN16615 standard (Quantitative test method for the evaluation of bactericidal and yeasticidal activity on non-porous surfaces with mechanical action employing wipes in the medical area).
For instance, Dispomop® from Decitex achieves a 4 log reduction of bacteria by using water only.

DECITEX Dispomop®

STEAM CLEANING

Steam cleaning systems produce high temperature (95°C) steam allowing the detergence and disinfection of all kinds of floor surfaces - vertical surfaces, furniture, equipment and medical devices in one use.
Our floors are compatible with the use of steam cleaning

SANIVAP SP 400

STUDY 15 - 1850

RESULTS OF DISINFECTION EFFICACY TESTS ON MULTI RESISTANT (BACTERIA – FUNGI / YEASTS) AND ON VIRUSES

Evaluation of the efficacy of SANIVAP steam disinfection equipment SP400. Number of viable microorganisms on test surfaces before (Nw) and after (N) treatment by the SANIVAP steam disinfection process. Mechanical effect (Nm). Mean of viable microorganisms transferred from the contaminated areas (C4 to C6) to the non-contaminated areas (C1 to C3 and C7 to C15) (N') R: logarithmic reduction.

		MULTI RESISTANT BACTERIA				FUNGI - YEASTS		VIRUSES		
		Pseudomonas aeruginosa Multi R (incl ESBL)	*Acinetobacter baumanii* Multi R	*Klebsiella pneumoniae* ESBL	*Enterobacter cloacae* Carbapenemase	*Geotrichum candidum* IP 285.54	*Aspergillus flavus* IP 2464.98	*Murine Norovirus* TIB-71	*Adenovirus type 5* CCL-2	*Coronavirus* CCL-81
Nw (Nb.CFU/ test area)		$1{,}11\times10^{5}$	$9{,}56\times10^{6}$	$1{,}33\times10^{6}$	$7{,}31\ 10^{6}$	$3{,}8\times10^{3}$	$8{,}9\times10^{5}$	4,9	5,0	5,2
Nm (Nb.CFU/test area)		$4{,}23\times10^{5}$	$9{,}63\times10^{6}$	$3{,}36\times10^{6}$	$5{,}44\times10^{6}$	$4{,}17\times10^{3}$	$6{,}6\times10^{5}$	4,8	4,1	4,7
N (Nb. CFU test area)	Nc_4	<1	<1	<1	<1	<1	88	<1	<1	<1
	Nc_5	<1	<1	<1	<1	<1	47	<1	<1	<1
	Nc_6	<1	1	<1	<1	<1	40	<1	<1	<1
N'	N' C1 to C3 and C7 to C15	<10	<10	<10	<10	<10	11	<10	<10	<10
N'm	N'm C1 to C3 and C7 to C15	<10	<10	<10	<10	<10	<10	<10	<10	<10
Logarithmic reduction R		**>5,6**	**>7,0**	**>6,5**	**>6,7**	**>3,6**	**>5,0**	**>4,6**	**>4,7**	**>4,9**

SANIVAP SP400 - RESULTS OF DISINFECTION EFFICACY TESTS