Cleaning order for Fundermax panels

FIRST CLEANING STEP

Clean the surface just with pure hot water and use a soft sponge - (DO NOT use the abrasive "green" side of the sponge), use a soft cloth or a soft brush (e.g. nylon brush).

SECOND CLEANING STEP

If stains cannot be removed common household cleaners without abrasives e.g. dish detergent (Palmolive etc.), window cleaner (Windex etc.) may be used. Subsequently do the final cleaning.

THIRD CLEANING STEP

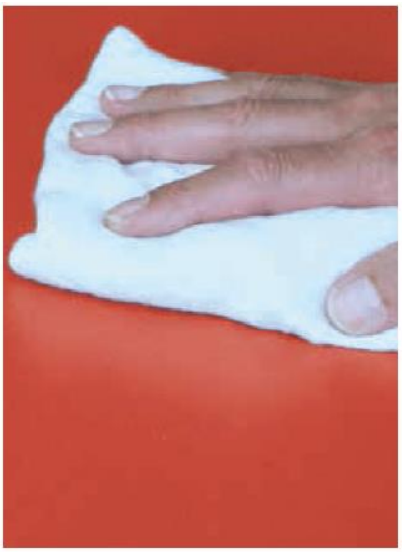
If the contamination is not removable, you can use a solution of soft soap - water (1:3). Depending on the degree of pollution leave it on the surface for a couple of minutes. Subsequently do the final cleaning.

FOURTH CLEANING STEP

Same as cleaning step 1, but additionally you may use organic solvents (e.g. acetone, alcohol, turpentine, thinner). For persistent stains, try to clean mechanically
Caution: Avoid scratching, use plastic or wooden spatula. Subsequently do the final cleaning.

FIFTH CLEANING STEP

(for adhesives, varnish, sealants, silicone residues) Rub off the surface with a soft cloth or a soft sponge dry. If contaminants cannot be removed, use silicone remover or ask the adhesive manufacturer for the ideal cleaning agents.
Caution: Cured 2K adhesives, coatings, foams and sealant **cannot** be removed.



SIXTH CLEANING STEP

Same as cleaning step 1. For persistant limescale acidic cleaning agents may be used (for example, 10% acetic acid or citric acid). Subsequently do the final cleaning.

FINAL CLEANING

Remove all traces of detergent to avoid streaking. Finally, wash with pure water. Wipe the surface dry with an absorbent cloth or paper towel.
When cleaning with solvent: Observe the accident prevention regulations! Open windows! No open flame!

Fundermax North America, Inc.
www.fundermax.us
contactfna@fundermax.biz, P: 980-299-0035

Chemical resistance

The focus of this recommendation is a depiction of the chemical resistance of the Fundermax Compact panels and the resulting possibilities for application.

Besides their excellent mechanical values, the hygienic pore-free sealed surfaces of the Fundermax panels mean a high temperature resistance, easy cleaning and a good resistance to chemicals. The stain resistance requirements in accordance with EN 438 are also met.

They can therefore be used when for example;

- Lab and technical chemicals
- Solvents
- Disinfectants
- Dyes (certain types)
- Cosmetics

are used on the surface.

Particular attention must be paid to the careful processing of Fundermax Compact panels, as certain requirements may be imposed due to the particular field of use when constructing certain laboratory and medical facilities. For this kind of application we recommend the use of Max Resistance (lab panels).

Fundermax Compact panels are resistant against many different chemicals. However, several chemicals may still corrode the surface.

Therefore, of crucial importance are:

- The concentration
- Exposure time
- The temperature of substances used

The following lists, although there is no guarantee that they are complete, give an overview of the resistance of Fundermax Compact panels (at room temperature) against the effects of frequently occurring or used substances (solid, dissolved, fluid, gaseous).
When using substances that are not listed, we ask that you enquire further and recommend own sample tests.

No damage

Fundermax Compact panels are resistant against the following substances and agents. These elements do not have an impact on the surface area of Fundermax Compact panels, even after prolonged exposure (16 hours).

Substance	chemical formula
Acetic Acid	CH_3COOH
Acetone	CH_3COCH_3
Active charcoal	
Alcohol	ROH
Alcohol, beverages	
Alcohol, primary	RCH2OH
secondary	RR'CHOH
tertiary	RR'R''COH
Aldehyde	RCHO
Alum liquor	$KAl(SO_4)_2.12H_2O$
Aluminium chloride	$AlCl_3.aq.$
Aluminium sulphate	$Al_2(SO_4)_3$
Aluminium potassium sulphate	$KAl(SO_4)_2$
Amides	
Amines, primary	$RCONH_2$
secondary	RNH2
tertiary	(RR')NH
Ammonia	(RR'R'')N
Ammonium chloride	NH_4OH
Ammonium sulphate	NH_4Cl
Ammonium sulphate	$(NH_4)_2SO_4$
Amyl acetate	NH_4SCN
Amyl alcohol	$CH_3COOC_5H_{11}$
Aniline	$C_5H_{11}OH$
Animal fat	$C_6H_5NH_2$
Animal fodder	
Arabinose	
Ascorbic acid	$C_5H_{10}O_5$
Asparagine	$C_6H_8O_6$
Aspartic acid	$C_4H_8O_3N_2$
p-Aminoacetophenon	$C_8H_7O_4N$
Baker's yeast	$NH_2.C_6H_4COCH_3$
Barium chloride	
Barium sulphate	$BaCl_2$
Benzaldehyde	$BaSO_4$
Benzene	C_6H_5CHO
Benzidine	C_6H_6
Benzoic acid	$NH_2C_6H_4.C_6H_4NH_2$
Biogel	C_6H_5COOH
Blood	
Boric acid	
Butylacetate	H_3BO_3
Butyl alcohol	$CH_3COOC_4H_9$
Cadmium acetate	C_4H_9OH
Cadmium sulphate	$Cd(CH_3COO)_2$
Caffeine	$CdSO_4$
Calcium carbonate (lime)	
Calcium chloride	$CaCO_3$
Calcium hydroxide	$CaCl_2$
Calcium nitrate	$Ca(OH)_2$
Cane sugar	$Ca(NO_3)_2$
Carbolic acid	$C_{12}H_{22}O_{11}$
Carbolic acid - xylene	$C_6H_5O_4$
Carbon tetrachloride	$C_6H_5OH-C_6H_4(CH_3)_2$
Casein	CCl_4
Castor oil	
Cedarwood oil (concentrated)	
Cement	
Chloral hydrate	
Chlorobenzene	$CCl_3CH(OH)_2$
Chloroform	C_6H_5Cl
Cholesterol	$CHCl_3$
Citric acid	$C_{27}H_{46}OH$
Clay	$C_6H_8O_7$
Coal	

Substance	chemical formula
Cocaine	$C_{17}H_{21}O_4N$
Coffee	
Common salt	NaCl
Copper sulphate	$CuSO_4.aq$
Cosmetics	
Cresol	$CH_3C_6H_4OH$
Cresylic acid	$CH_3C_6H_4COOH$
Cyclohexane	C_6H_{12}
Cyclohexanol	$C_6H_{11}OH$
Detergents	
Dextrose	$C_6H_{12}O_6$
Digitonin	$C_{56}H_{92}O_{29}$
Dimethyl formamide	$HCON(CH_3)_2$
Dimetyhl acetic acid	CH_3COOH
Dioxan	$C_4H_8O_2$
Dulcitol	$C_6H_{14}O_6$
Ester	RCOOR'
Ethanol	C_2H_5OH
Ether	ROR'
Ethyl acetate	$CH_3COOC_2H_5$
Ethylene dichloride	$CH_2:CCl$
Fodder	
Foodstuffs	
Formaldehyde	HCOH
Formic acid up to 10%	HCOOH
Fructose	$C_6H_{12}O_6$
Galactose	$C_6H_{12}O_6$
Gelatine	
Glacial acetic acid	CH_3COOH
Glucose	$C_6H_{12}O_6$
Glycerine	$CH_2OH.CHOH.CH_2OH$
Glycocoll	NH_2CH_2COOH
Glycol	$HOCH_2.CH_2OH$
Graphite	C
Greases	
Gypsum	$CaSO_4.2H_2O$
Heparin	
Heptanol	$C_7H_{15}OH$
Hexane	C_6H_{14}
Hexanol	$C_6H_{13}OH$
Hydrogen peroxide 3%	H_2O_2
Hypophysin	
Imido "Roche"	
Immersion oil	
Ink	
Inorganic salts and their mixtures	
Inositol	$C_6H_6(OH)_6$
Insecticides	
Isoamyl acetate	$CH_3COOC_5H_{11}$
Isopropanol	C_3H_7OH
Ketone	RC:OR'
Lactic acid	$CH_3CHOHCOOH$
Lactose	$C_{12}H_{22}O_{11}$
Lead acetate	$Pb(CH_3COO)_2$
Lead nitrate	$Pb(NO_3)_2$
Laevoluse	$C_6H_{12}O_6$
Lipstick	
Lithium carbonate	Li_2CO_3

For you to create

Fundermax North America, Inc.
www.fundermax.us
contactfna@fundermax.biz, P: 980-299-0035

No damage

Fundermax Compact panels are resistant against the following substances and agents. These substances do not have an impact on the surface area of Fundermax Compact panels, even after prolonged exposure (16 hours).

Substance	chemical formula
Magnesium carbonate	$MgCO_3$
Magnesium chloride	$MgCl_2$
Magnesium sulphate	$MgSO_4$
Maltose	$C_{12}H_{22}O_{11}$
Manitol	$C_6H_{14}O_6$
Mannose	$C_6H_{12}O_6$
Mercury	Hg
Mesoinositol	$C_6H_6(OH)_6$
Methanol	CH_3OH
Milk	
Mineral oils	
Mineral salts	
Nail varnish	
Nail varnish remover	
α-Naphtol	$C_{10}H_7O_7$
α-Naphtylamine	$C_{10}H_7NH_2$
Nickel sulphate	$NiSO_4$
Nicotine	$C_{10}H_{14}N_2$
p-Nitrophenol	$C_6H_4NO_2OH$
Nonne-Appelt-reagent	
Octanol	$C_8H_{17}OH$
n-Octyl alcohol	$C_8H_{17}OH$
Olive oil	
Oleic acid	$CH_3(CH_2)_7CH{:}CH(CH_2)_7COOH$
Organic solvents	
Ointments	
Pandy´s reagent	
Paraffin waxes	CnH_{2n+2}
Paraffinic oil	
Pentanol	$C_5H_{11}OH$
Peptone	
Petroleum benzin	
Phenol and phenol derivatives	C_6H_5OH
Phenolphtalein	$C_{20}H_{14}O_4$
Polishing agents (creams/waxes)	
Potash lye up to approx. 10%.	KOH
Potassium bromate	$KBrO_3$
Potassium bromide	KBr
Potassium carbonate	K_2CO_3
Potassium chloride	LCl
Potassium hexacyanoferrate	$K_4Fe(CN)_6$
Potassium iodate	KJO_3
Potassium nitrate	KNO_3
Potassium sodium tartrate	$KNaC_4H_4O_6$
Potassium sulphate	K_2SO_4
Potassium tartrate	$K_2C_4H_4O_6$
Potato starch	
Propanol	C_3H_7OH
1,2-Propylene glycol	$CH_3CHOHCH_2OH$
Pyridine	C_5H_5N
Qinol	HOC_6H_4OH
Raffinose	$C_{18}H_{32}O_{16}.5H_2O$
Rhamnose	$C_6H_{12}O_5.H_2O$
Rochelle salt	
Saccarose	= Cane sugar
Salicylaldehyde	$C_6H_4OH.CHO$
Salicylic acid	$C_6H_4OHCOOH$
Saponon	
Seawater	
Soap	

Substance	chemical formula
Sodium acetate	CH_3COONa
Sodium carbonate	Na_2CO_3
Sodium chloride	NACl
Sodium citrate	$Na_3C_6H_5O_7.5H_2O$
Sodium diethylene barbiturate	$NaC_8H_{11}N_2O_3$
Sodium hydrogen sulphite	$NaHSO_3$
Sodium hydrogencarbonate (Sodium carbonate)	$NaHCO_3$
Sodium hydroxide solution (up to approx. 10%)	NaOH
Sodium hyposulphite	$Na_2S_2O_4$
Sodium nitrate	$NaNO_3$
Sodium phosphate	Na_3PO_4
Sodium silicate	Na_2SiO_3
Sodium sulphate	Na_2SO_4
Sodium sulphide	Na_2S
Sodium sulphite	Na_2SO_3
Sodium tartrate	$Na_2C_4H_4O_6$
Soil	
Soot	
Sorbitol	$C_6H_{14}O_6$
Standard acetate solution	
Standard I + II -Nutrient agar	
Standard I + II -Nutrient broth	
Starch	
Starch -common salt solution	
Stearic acid	$C_{17}H_{35}COOH$
Styrene	$C_6H_5.CH{:}CH_2$
Sugar and sugar derivates	
Sulphur	S
Talcum powder	$3MgO,4SiO_2, H_2O$
Tannic acid	$C_{76}H_{52}O_{46}$
Tartaric acid	$C_4H_6O_6$
Tea	
Test serum for blood grouping	
Tetrahydrofuran	C_4H_8O
Tetraline	$C_{10}H_{12}$
Thiourea	NH_2CSNH_2
Toepfer´s reagent	
Toulene	$C_6H_5CH_3$
Trehalose	$C_{12}H_{22}O_{11}$
Tricholoro ethylene	$CHCl{:}CCl_2$
Trypsin	
Trytophane	$C_{11}H_{12}O_2N_2$
Turpentine	
Tymol	$C_{10}H_{14}O$
Tymol buffer solution	
Urea solution	$CO(NH_2)_2$
Urease	
Uric acid	$C_5H_4N_4O_3$
Urine	
Vanillin	$C_8H_8O_3$
Vaseline	
Water	H_2O
Water colours	
Xylene	$C_6H_4(CH_3)_2$
Yeasts	
Zinc chloride	$ZnCl_2$
Zinc sulphate	$ZnSO_4$

Fundermax North America, Inc.
www.fundermax.us
contactfna@fundermax.biz, P: 980-299-0035

No damage under short exposure

Surfaces from Fundermax Compact panels remain unchanged when the following substances are spilled on them (particularly in liquid or dissolved form) or if they are in contact for a short amount of time. That means the panels are washed with a wet towel within 10-15 minutes and then rubbed dry.
Please note that the time of exposure is an important factor in the extent of corrosion on the HPL surfaces, even with diluted agents. As a result of the evaporation of the diluted material, the concentration of the substance increases over a period of time and the surfaces of Fundermax Compact panels will be corroded, even though the concentration used will mostly be below those named in the following list. Focused sample tests are recommended.

Substance	chemical formula
Amino-S acid up to 10%	NH_2SO_3H
Aniline dyes	
Antiliming agents	
Arsenic acid up to 10%	H_3AsO_4
Boric acid	H_3BO_3
Crystal violet (Gentian violet)	$C_{24}H_{28}N_3Cl$
Esbach's reagent	
Formic acid over 10%	HCOOH
Fuchsine solution	$C_{19}H_{19}N_3O$
Hair dyes and bleaches	
Hydrochloric acid up to 10%	HCl
Hydrogen peroxide over 3-30% (Perhydrol)	H_2O_2
Inorganic acids up to 10%	
Iodine solution	I
Iron (II) chloride solution	$FeCl_2$
Iron (III) chloride	$FeCl_3$
Mercury (II) chromate	$HgCr_2O_7$
Methylene blue	$C_{16}H_{18}N_3ClS$
Millon's reagent	OHg_2NH_2Cl
Nitric acid up to 10%	HNO_3
Nylander's reagent	
Oxalic acid	COOH.COOH
Phosphoric acid up to 10%	HPO_4
Picric acid	$C_6H_2OH(NO_2)_3$
Potash lye over 10%	KOH
Potassium hydrogensulphate	$KHSO_4$
Potassium chromate	K_2CrO_4
Potassium dichromate	$K_2Cr_2O_7$
Potassium iodide	KJ
Potassium permanganate	$KMnO_4$
Silver nitrate	$AgNO_3$
Sodium hydrogen-sulphate	$NaHSO_4$
Sodium hydroxide sol. over 10%	NaOH
Sodium hypochloride	NaOCl
Sodium thiosulphate	$Na_2S_2O_3$
Sublimate solution (= mercury (II) chloride)	$HgCl_2$
Sulphuric acid up to 10%	H_2SO_4
Sulphurous acid up to 10%	H_2SO_3
Varnishes and adhesives, (chemically curing)	

High damage risk

The following chemicals destroy the Fundermax Compact panel surfaces and must be removed immediately, as they could also leave behind dull spots and coarseness.

Substance	chemical formula
In concentrations greater than 10%: Amino sulpho acid	NH_2SO_3H
Inorganic acids such as	
Arsenic acid	H_3AsO_4
Aqua regia	HNO_3 + HCl = 1:3
Chromosulphuric acid	$K_2Cr_2O_7 + H_2SO_4$
Hydrochloric acid	HCl
Hydrofluoric acid	HF
Hydrogen bromide	HBr
Nitric acid	HNO_3
Phosphoric acid	H_3PO_4
Sulphuric acid	H_2SO_4

Aggressive gases

Frequent exposure to the following aggressive gases and vapors can lead to changes in the Fundermax Compact panel surfaces.

Substance	chemical formula
Acid vapours	
Bromine	Br_2
Chlorine	Cl_2
Nitrose fumes	NxOy
Sulphur dioxide	SO_2