

MATERIAL BENEFITS

tested, certified, hygienic, safe



The all-purpose solid-surface material

VARICOR® stands for functionally and aesthetically superior custom-fit solutions for a wide range of applications, such as nurseries, hospitals/laboratories, washrooms, etc.

The material properties of this solid-surface material are impressive in many respects: VARICOR® is non-porous, impact resistant, largely heat resistant, flame retardant and resistant to the disinfectants used for sanitising surfaces and hands, and to standard chemicals. Because of its high material density and homogeneity the material is also extremely wear resistant. But that's not all: this fully through-coloured mineral material is available in practically any colour you could wish, and can be moulded into almost any shape and fabricated seamlessly – either as a standard product or as a custom piece. Even small product batches can be manufactured cost effectively – not least because of our more than 40 years' experience and a fully certified quality management system.

VARICOR® consists of the natural filler aluminium hydroxide, high-quality copolymers and mineral colour pigments. This non-porous, extremely wear-resistant and exceptionally versatile material is not only food safe, heat resistant, impact resistant and maintenance friendly, it also meets the critical requirements for the applications and shapes of tomorrow:

1. **VARICOR® moulded parts are CE certified** and fulfil the conditions required by the EU directives for the respective product groups.
2. **VARICOR® is hygienic and resistant** to all the standard chemicals and disinfectants for hands and surfaces.
3. **VARICOR® provides good antibacterial effectiveness** in the standard plain white colours and is **optionally available with antiviral properties**.
4. **VARICOR® is biocompatible and partially recyclable.**
It contains no heavy metals or other toxic substances and is produced and packaged in a resource-saving manner.
5. **VARICOR® is sustainable.** It can be reworked and even fully repaired without great effort or expense.

VARICOR® – a versatile, enduring material, sustainably produced in Europe.



Contents

- 04 CE mark
- 06 Hygienic properties
- 08 Antibacterial/antiviral properties
- 10 Resistance to disinfectants
- 12 Chemical resistance
- 18 Technical properties
- 20 Environment/Sustainability



CE mark

The CE (Conformité Européenne) mark, which is mandatory for sanitary ceramics, guarantees that the product meets all the requirements of the European directives for this product group and can be installed and/or used without restrictions. This gives tendering bodies and users the assurance that only products are used that comply with the statutory regulations and that, when installed correctly and used as intended, reliably and safely fulfil their intended purpose.

Mandatory CE marking

Products that, due to their nature and condition, are covered by EU directives are subject to mandatory CE marking. This condition has been a requirement for sanitary manufacturers since 2009. In addition to wash basins, the specification also applies to wash troughs, care-home basins and kitchen sinks. VARICOR® manufactures in accordance with DIN EN ISO 9001: 2015. This ensures that all products are manufactured with constant quality according to a certified process.

CE for wash basins in accordance with DIN EN 14688

- Resistance to temperature changes (70°C / 15°C, 1000 cycles)
- Static load for wall-mounted sanitary fittings of 150 kg surface load over a period of 1 hour
- Complete water draining (VARICOR® basins usually have an incline of 2°–3°)
- Overflow protection with indication of the discharge capacity of the overflow (VARICOR® basins have an overflow capacity of 0.25 l/s)
- Easy cleaning of basin surface (no sharp inner corners or edges)
- Resistance to chemicals and stains (must be removable with abrasive cleaning agents)

CE for shower trays in accordance with DIN EN 14527 for class CL2

- Easy cleaning of shower tray surface (no sharp inner corners or edges)
- Complete water draining

CE for baby and child wash basins in accordance with EN 14516

- Resistance to temperature changes (75°C / 12°C, 100 cycles). The water is allowed to accumulate for 10 minutes at a time, then drained off and directly refilled
- Loading the bottom of the tub with 100 kg
- Complete water draining
- Resistance to chemicals and stains (must be removable with abrasive cleaning agents)

CE for wash troughs in accordance with EN 14296

- Static load with at least 75 kg (a 25-kg weight every 500 mm)
- Easy cleaning of basin surface (no sharp inner corners or edges)

CE for kitchen sinks in accordance with DIN EN 13310

- Resistance to temperature changes (90 °C / 15°C, 1000 cycles)
- Complete water draining
- Resistance to dry heat
- Resistance to chemicals and dyes (must be removable with abrasive cleaning agents)



Hygienic properties

Particularly in clinical and biological work areas, rigorous demands are placed on hygiene. For this reason, it is particularly important to choose a material for wash basins and work areas that does not offer any opportunity for germs, bacteria, fungi or microorganisms to develop. The following test results show that the high-quality VARICOR® solid-surface material is excellently suited to all areas of application where the highest demands are placed on hygiene.



Adhesion test

100 microlitres of liquid with 106 bacteria were applied to a VARICOR® surface. Incubation time 5 hours at 37°C and saturated humidity. The surface was cleaned five times, each time with 10 ml sterile, bacteria-free water, and the sample was immersed in an ultrasonic bath (46 kHz).

Disinfection test

The same bacterial cultures were used as for the adhesion test. The surface was cleaned by immersing the sample in diluted bleach (0.003% chlorine content) for a period of 15 seconds.

Number of bacteria remaining out of a total of 1,000,000

Staphylococcus aureus	Staphylococcus epidermidis	Escherichia coli	Pseudomonas aeruginosa
< 1	14	1	1

Result:

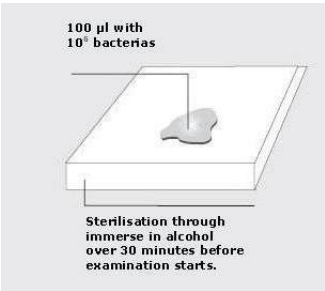
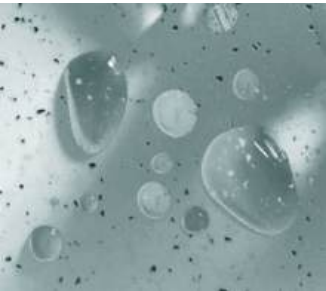
The small number of bacteria remaining shows that microorganisms cannot adhere to the VARICOR® surface (see table). The risk of biofilm formation is consequently greatly reduced.

Number of bacteria remaining out of a total of 1,000,000

Staphylococcus aureus	Staphylococcus epidermidis	Escherichia coli	Pseudomonas aeruginosa
0	20	0	21

Result:

Bleach minimizes the number of bacteria by 99.99%, i.e. the surface is effectively disinfected. The tests show that, even without antibacterial additives, VARICOR® surfaces can be cleaned of almost all residue using appropriate cleaning methods.



The tests were carried out by an independent laboratory.

* Bleach is used as the disinfectant.



Antibacterial/antiviral properties

VARICOR® is setting new hygiene standards in the solid surface sector: The antiviral effectiveness of VARICOR®—including against coronaviruses—has been proven!

Due to its wide range of applications, VARICOR® has always been highly concerned with the issue of hygiene. It also reacted immediately to the new type of Corona virus.

The in-house R&D department has been researching new formulations in order to contribute to the containment of the pandemic today and in the future. With success!

VARICOR® sheets and shapes are optionally available in a special formulation "ABV" (= antibacterial & antiviral), and this in all decors.

An independent institute has proven in various tests with the human coronavirus based on ISO 21702:2019 that the VARICOR® special formulation has an antiviral effectiveness of more than 96 % after 120 minutes.

This means that more than 96 % of the viruses are killed within 120 minutes!

This effectiveness is, of course, permanent, as the active ingredient is evenly distributed throughout the material and does not degrade even after the surface has been refurbished.

It is reassuring to have VARICOR®, a material with these proven properties, at hand!

These properties are certainly interesting for all areas of application, i.e. not only for the laboratory and medical sector, but also for areas such as reception counters or office tables or other desks, i.e. highly frequented places where viruses can spread very quickly.

Some time ago, VARICOR® was also certified as having good antibacterial efficacy in accordance with ISO 22196.

VARICOR® therefore offers the highest standards for all areas of application where special demands are made on hygiene.





Resistance to disinfectants

When you choose VARICOR®, you choose a product that has been used successfully for more than 40 years in a diverse range of market segments. These include the hygienically sensitive hospital and laboratory sectors. Laboratory tests confirm resistance to all standard disinfectants for surface and hand disinfection.

The LGA has also tested VARICOR® on the basis of DIN EN 12720 to check the compatibility of VARICOR®, various cleaning agents and disinfectants frequently used in hospitals were provided. The substances to be tested were applied to the sample panels (White Alpine) and covered for 16 hours. After the cover was removed, the surfaces were cleaned with distilled water. Assessment of results: after 24 hours.

Below is a summary of the substances tested.

Test result from TÜV Rheinland LGA Products GmbH – Nuremberg Furniture Testing Institute

Substance	Concentration	Evaluation*	Result
Bode Sterillium	pure	5	No change. The test surface cannot be distinguished from the adjacent surrounding surface. The substances leave no residue or stains.
Bode Sterillium Virugard	pure	5	
Ecolab Spitacid	pure	5	
Braun Meliseptol Rapid	pure	5	
Schülke Desderman pure	pure	5	
Schülke Terralin Liquid	pure	5	
Dr. Schnell Septoderm	pure	5	
Ecolab Skinman Soft	pure	5	
Braun Promanum N	pure	5	
Bode Bacillol AF	pure	5	
Dr. Schnell Desifor Quick	pure	5	
Schülke Terralin Protect	2 %	5	
Schülke Perform	3 %	5	
Ecolab Incidin Perfekt	3 %	5	
Ecolab Incidin plus	3 %	5	
Ecolab Incidin Active	2 %	5	
Bode Dismozon pur	4 %	5	
Schülke Desinfektionsreiniger AF	3 %	5	
Braun Melsept SF	2 %	5	
Bode Microbac forte	2.5 %	5	
Dr. Schnell Desifor B	2 %	5	
Schülke Antifect AF	1 %	5	
Dr. Schnell Desifor forte AF	3 %	5	
Ecolab Incidin rapid	2 %	5	
Braun Hex- plus	2 %	5	
Braun Hexaquart forte	2 %	5	
Bode Kohrsolin extra	3 %	5	

The tests were conducted on the colour White Alpine. * Grading scheme from grade 1 (strong change) to grade 5 (no change).





Chemical resistance

VARICOR® demonstrates optimum performance characteristics not only in terms of hygiene and disinfectant resistance. Its chemical resistance has also been extensively tested: under normal conditions (1 h, open) and under extreme conditions (16 h, covered) with substances commonly used in hospitals.

Exposure time: 1 hour, open

The following procedure was selected to test the resistance of VARICOR®: **Exposure time on the material to be tested (colour: White Alpine) 1 hour, open.**

Surface condition: all tests were carried out on a surface prepared with 400 grit sandpaper.

The substances on the following sides marked with • leave no traces after 1 hour of exposure and subsequent cleaning with soap and water. The substances marked with a number leave behind residues (deposits, colour or gloss changes, etc.) after the above cleaning.

The following numbers indicate how the residues are to be removed:

- 1 = scouring powder
- 2 = bleach (chlorine bleach)
- 3 = Scotch-Brite (dry or wet)
- 4 = sandpaper

Please note that the effect of many chemicals on VARICOR® depends on the exposure time and the colour used. For these reasons, it has been shown to be a good idea to consider the expected exposure times and application methods for specific applications and to test the chemicals in advance.

Exposure time: 1 hour, open

Leaves no trace	Leaves a trace, remove with	Active agent	Leaves no trace	Leaves a trace, remove with	Active agent	Leaves no trace	Leaves a trace, remove with	Active agent
•		Acetate solution Standard	4		Bromine	•		Coffee
•		Acetic acid 10%	1		Bromothymol blue	1		Compressor oil
•		Acetic acid 95%	1		Bromothymol blue 10%	•		Copper sulphate
•		Acetone	•		Buraton 10F, diluted 1%	•		Copper sulphate 10%
•		Alcohol vinegar, coloured	•		Buraton 10F, undiluted	•		Cream, fresh
•		Ale, dark	1		Buraton rapid Surface Disinfectant	1		Crude oil
•		Ale, pale	•		Butter	1		Crystal violet
•		Allspice, mild	•		Butyl acetate	1		Cutasept G
•		Alum solution	•		Butyl alcohol	4		Cyanoacrylate adhesive, dried after 24 h
•		Ammonia 10%	•		Buzil Bucal cleaner	1		Cyanoacrylate adhesive, wet after 1 h
•		Ammonia 33 %	•		Cadmium acetate	1		Desderman (N)
•		Ammonium hydroxide	•		Cadmium acetate 10%	•		Desmanol disinfectant
		(ammonia solution 28%)	•		Cadmium sulphate	•		Detergent liquid, concentrated
•		Ammonium sulphate	•		Cadmium sulphate 10%	•		1,2-Dichloroethene
•		Ammonium sulphate 10%	•		Caffeine	1		Diesin Forte 3%
•		Amyl acetate	•		Calcium carbonate	1		Diethyl ether
•		Amyl alcohol	•		Calcium carbonate 10%	•		Digitonin
•		Aniline	•		Calcium chloride	•		Digitonin, saturated solution in alcohol
•		Aniline 10% (in alcohol)	•		Calcium chloride 10%	•		Dimethyl sulfoxide
	2	Aniline blue	•		Calcium hydroxide	4		Dimethylsulfamide
	2	Aniline blue 10%	•		Calcium hydroxide 10%	•		Dioxane
	1	Anios D.D.S.H. disinfectant	1		Candle wax red, melted	•		Dishwasher detergent (powder)
•		Antifreeze agent	•		Cane sugar	•		Dishwasher detergent 10%
•		Apple juice	•		Cane sugar solution 10%	•		Dulcitol
•		Aqua regia	•		Caramelised sugar	•		Egg yolk
•		Arabinose	•		Carbol Xylol	1		Elderberry juice
•		Ascorbic acid	•		Carbolic acid	1		Endorsing ink
•		Ascorbic acid 10%	•		Carbolic acid 10%	1		Eosin solution
•		Asparagine	•		Carbon tetrachloride	1		Esbach's reagent
•		Aspartic acid	•		Casein	1		Esemtan bath oil
•		Aspartic acid 10%	•		Casein 10% (diluted in ammonia)	•		Ethanol
•		Atrox	•		Castor oil	•		Ether
•		Baker's yeast	•		Caustic soda 10%	•		Ethyl acetate
•		Baktolin basic	•		Cayenne pimento (Piri Piri)	•		Ethyl formate
•		Baktolin wash lotion	•		Cedar wood oil, thickened	•		Ethylene dichloride = 1.2 Dichloroethene
•	1	Ballpoint pen	•		Chloral hydrate	•		Eugenol
•		Barium chloride	•		Chloral hydrate 10%	•		Eye make-up remover
•		Barium chloride 10%	•		Chloroform	•		Fabric softener
•		Beeswax	3		Chloroform, covered	1		Fala Ofan fresh concentr. sanitary cleaner
•		Benzene	•		Chocolate powder	1		Felt tip pen, black
	1	Betaisodona cleaner	•		Chocolate, melted	•		Fixer (Kodak Unifix, undiluted)
•		Biogel	•		Cholesterol	1		Floortop floor care product
•		Biokusid disinfectant	•	1	Cigarette ash, hot	•		Formaldehyde 35%
•		Biosurfactant	•		Cinnamon (concentrated extract)	•		Formic acid
	1	Blackcurrant juice	•		Citric acid	•		Formic acid 10%
•		Blood	•		Citric acid 10%	1		Forol surface cleaner
•		Blood group test serum	•		Citric acid zinc sulphate solution	1		Freka Sept 80 hand disinfectant
	1	Bombastus Propar	•		Citric acid zinc sulphate solution 10%	•		Freon 113
•		Boric acid	•		Cleansept	•		Fructose
•		Boric acid 10%	•		Coal	•		Fructose 10%
	1	Braunoderm	•		Coca-Cola	1		Fuchsin solution
	1	Braunol solution 2000	•		Cocaine solution	•		Fuel oil, light

Exposure time: 1 hour, open

Leaves no trace	Leaves a trace, remove with	Active agent	Leaves no trace	Leaves a trace, remove with	Active agent	Leaves no trace	Leaves a trace, remove with	Active agent
●		Galactose	●		Linseed oil	1		Nut water (furniture stain)
●		Galactose 10%	●	1	Lipstick	●		Nutrient agar Standard I
●		Gas oil	●		Lithium carbonate	●		Nutrient agar Standard II
●		Gelatine	●		Lithium carbonate 10%	●		Nutrient broth Standard I
●		Glacial acetic acid	●		Maggi	●		Nutrient broth Standard II
●		Glucose	●		Magnesium carbonate	3		Nylander's reagent
●		Glucose	●		Magnesium carbonate 10%	●		Octenisept, dyed
●		Glucose 10%	●		Magnesium chloride	●		Octyl alcohol
●		Glucose solution 10%	●		Magnesium chloride 10%	●		Oleic acid
●		Glycerine	●		Magnesium sulphate	●		Olive oil
●		Glycine	●		Magnesium sulphate 10%	●		Oven cleaner
●	1	Graphite grease	●		Maltose	●		Ox gall liquid
●		Grotanat	●		Maltose 10%	●		Ox gall liquid 10%
●	1	Hair dye	●		Mannitol	●		Oxalic acid
●	1	Hair spray	●		Mannose	●		Oxalic acid 10%
●	1	Helipur	●		Mannose 10%	2		Oxydase reagent
●		Heparin	●		Margarine	4		Paint, vinyl resin, dry after 24 h
●		Hydraulic oil	●	1	Mascara	●		Paint, vinyl resin, wet after 1 h
●		Hydrochloric acid 10%	●	4	May-Grünwald solution	●		Paraffin
●	1	Hydrochloric acid 37%	●		Mayonnaise	●		Paraffin oil
●		Hydrofluoric acid 10–40%	●		Mercury	1		Paraffin, melted
●		Hydrogen peroxide	●		Mercury II chloride	●		Pentanol
●		Hydrogen peroxide 3% 110 vol.	●		Mercury II chloride 10%	●		Peptone
●		Hydrogen peroxide 30% 110 vol.	●		Methanol	●		Perchloric acid
●		Hydroquinone	●		Methyl methacrylate	●		Perchloric acid 10%
●		Hydroquinone 10%	●	1	Methylene blue	1		Perform disinfectant
●		Hypophysin	●	1	Methylene blue 10%	●		Petrol
●		Immersion oil	●		Methylene chloride	●		Petroleum benzine 40–70°C
●		Incidin Extra N 5%	●		Metol	1		Phenol
●		Incidin Liquid (pure)	●		Metol 10%	●		Phenol 10%
●		Incidin Plus 2%	●		Mikrobac forte 2.5%	●		Phenol 50%
●		Incidur 3%	●	1	Milizid Sanitary Cleaner	●		Phenolphthalein
●		Inonit	●		Milk	●		Phenolphthalein 10%
●	2	Iodine (1% alcoholic solution)	●		Milk chocolate 10% at 50°C	●		Phenyl methylaminosulphate
●	2	Iodine pure	●	1	Millon's reagent	●		Phenyl methylaminosulphate 10%
●	1	Iodine-potassium iodide solution	●	2	Mitoxantrone 10 Hexal solution	●		Phosphoric acid
●	1	Iron(II) chloride	●	2	Multibionta (solution for infusion)	●		Phosphoric acid 10%
●		Iron(II) chloride 10%	●		Mustard	4		Phosphoric acid 85%
●		Isopropanol	●		Myo-inositol	●		Photo developer
●	1	Kamillosan	●	1	Nail polish	●		(Ilford ID 11, undiluted)
●		Ketchup	●		Nail polish remover	1		Picric acid
●	1	Kiehl Prodesan concentrate	●		n-Butanol	1		Picric acid 10%
●	1	Kiehl SanEco concentrate	●		α-Naphthol, saturated water sol.	●		Polyethylene powder
●	1	Kohrsolin disinfectant	●		α-Naphthylamine	●		95% potable alcohol, denatured
●		Lactic acid	●	1	α-Naphthylamine 10% (in alcohol)	●		95% potable alcohol, not denatured
●		Lactic acid 10%	●	3	Neoprene glue, dried after 24 h	●		Potash lye 10%
●		Lactose	●		Neoprene glue, wet after 1 h.	●		Potassium aluminium sulphate
●		Lactose	●		Nitric acid 10%	●		Potassium aluminium sulphate 10%
●		Lactose 10%	●		Nitric acid 52.5%	●		Potassium bichromate
●		Lactose solution10%	●		n-Octanol	●		Potassium bichromate 10%
●		Lard	●		Nonne-Appelt-reagent	●		Potassium bromate
●		Lemon juice	●		Nuoc Mam fish sauce	●		Potassium bromate 10%

Exposure time: 1 hour, open

Leaves no trace	Leaves a trace, remove with	Active agent	Leaves no trace	Leaves a trace, remove with	Active agent	Leaves no trace	Leaves a trace, remove with	Active agent
●		Potassium bromide	●		Sodium bicarbonate	●		Thiourea
●		Potassium bromide 10%	●		Sodium bicarbonate 10%	●		Thiourea 10%
●		Potassium carbonate	●		Sodium carbonate	●		Thymol
●		Potassium carbonate 10%	●		Sodium carbonate 10%	●		Thymol 10% (in alcohol)
●		Potassium chromate	●		Sodium chloride	●		Thymol buffer solution
●		Potassium chromate 10%	●		Sodium chloride 10%	●		Titanium tetrachloride, covered
●		Potassium hydroxide	●		Sodium citrate	●		Toluene
●		Potassium hydroxide 10%	●		Sodium citrate 10%	●		Tomato paste concentr. min. 28%
●		Potassium iodate	●		Sodium diethyl barbiturate	●		Toothpaste
●		Potassium iodate 10%	●		Sodium hydrogen sulphate	●		Trehalose
●		Potassium iodide	●		Sodium hydrogen sulphate 10%	●		Trehalose 10%
●		Potassium iodide 10%	●	4	Sodium hydroxide (solid state)	●		Trichloroacetic acid
●		Potassium nitrate	●	1	Sodium hydroxide 10%	●		Trichloroacetic acid 10%
●		Potassium nitrate 10%	●	4	Sodium hydroxide 40%	●		Trichloroethane
●		Potassium permanganate	●		Sodium hypochlorite	●		Trichloroethylene
●	1	Potassium permanganate 10%	●		Sodium hypochlorite	●		Trisodium phosphate
●		Potassium sodium tartrate	●		12–48° chlorine	●		Trypsin
●		Potassium sodium tartrate 10%	●		Sodium hyposulphite	●		Tryptophan
●		Potato starch	●		Sodium hyposulphite 10%	●		Turpentine
●		Potato starch, saturated solution	●		Sodium nitrate	●		Urea
●		Povidone iodine (foaming solution):	●		Sodium nitrate 10%	●		Urea 6%
●		Povidone iodine	●		Sodium sulphate	●		Urease
●		as gynaecological solution	●		Sodium sulphate 10%	●		Uric acid
●		Propanol	●		Sodium thiosulphate	●		Uric acid 10%
●		1,2 Propylene glycol	●		Sodium thiosulphate 10%	●		Vanilla, liquid extract with sugar
●	1	Pyralvex solution	●		Sorbitol	●		Vanillin
●		Raffinose	●		Soy broth	●		Vanillin 10% (in alcohol)
●		Raffinose 10%	●		Spirit, white	●	4	Varnish, glyptal resin dried
●	1	Red wine	●		Spitaderm disinfectant	●	1	Varnish, glyptal resin wet
●	1	Redcurrant juice	●		Starch in saline solution	●		Vaseline
●	1	Redcurrant wine	●		Starch solution, saturated	●		Vinegar
●		Rhamnose	●		Sterillium hand	●		Vitamin C
●		Rhamnose 10%	●		and skin disinfectant	●		Washing powder
●		Rilan cleaner and disinfectant	●		Sterillium Virugard	●		Washing powder 10%
●	1	Rivanol	●		Styrene	●	1	Waste oil
●		Roche imide	●		Sublimate solution	●		White spirit
●	2	Saffron solution	●		Sucrose	●		White spirit, benzene-free
●		Salicylic aldehyde	●		Sucrose 10%	●		White wine
●		Saline solution 10%	●		Sulphuric acid 10%	●	1	Wine vinegar
●		Saponin	●		Sulphuric acid 50%	●	3	Wood glue, dried after 24 h
●		Saponin 10%	●	4	Sulphuric acid 98%	●		Wood glue, liquid after 1 h
●	1	Sauerkraut, boiled	●		Sumaron (industrial	●		Xylene
●	1	Sekusept (powder), disinfectant	●		dishwasher detergent)	●		Yoghurt
●		Sensiva wash lotion (liquid soap)	●		Tabasco	●		Zinc sulphate
●	1	Shoe polish	●		Table salt	●		Zinc sulphate 10%
●		Silver nitrate	●	1	Tar	●		Zinc sulphate saline solution
●	1	Silver nitrate 10%	●		Tartaric acid			
●		Skinman Soft	●		Tartaric acid 10%			
●		Soap-free cleaning agent	●	1	Tea			
●		(1% potassium hydroxide soltution):	●		Terralin diluted 0.5%			
●		Sodium acetate	●		Terralin liquid, undiluted			
●		Sodium acetate 10%	●		Tetrahydrofuran			

Exposure time: 16 hours, covered

The following procedure was selected to test the resistance of VARICOR®: **Exposure time on the material to be tested (colour: Whit Alpine) 16 hours, covered.**

Surface condition: all tests were carried out on a surface prepared with 400 grit sandpaper.

The substances on the following page marked with • leave no traces after 16 hour of exposure and subsequent cleaning with soap and water. The substances marked with a number leave behind residues (deposits, colour or gloss changes, etc.) after the above cleaning.

The following numbers indicate how the residues are to be removed:

- 1 = scouring powder
- 2 = bleach (chlorine bleach)
- 3 = Scotch-Brite (dry or wet)
- 4 = sandpaper

Please note that the effect of many chemicals on VARICOR® depends on the exposure time and the colour used. For these reasons, it has been shown to be a good idea to consider the expected exposure times and application methods for specific applications and to test the chemicals in advance.

Exposure time: 16 hours, covered

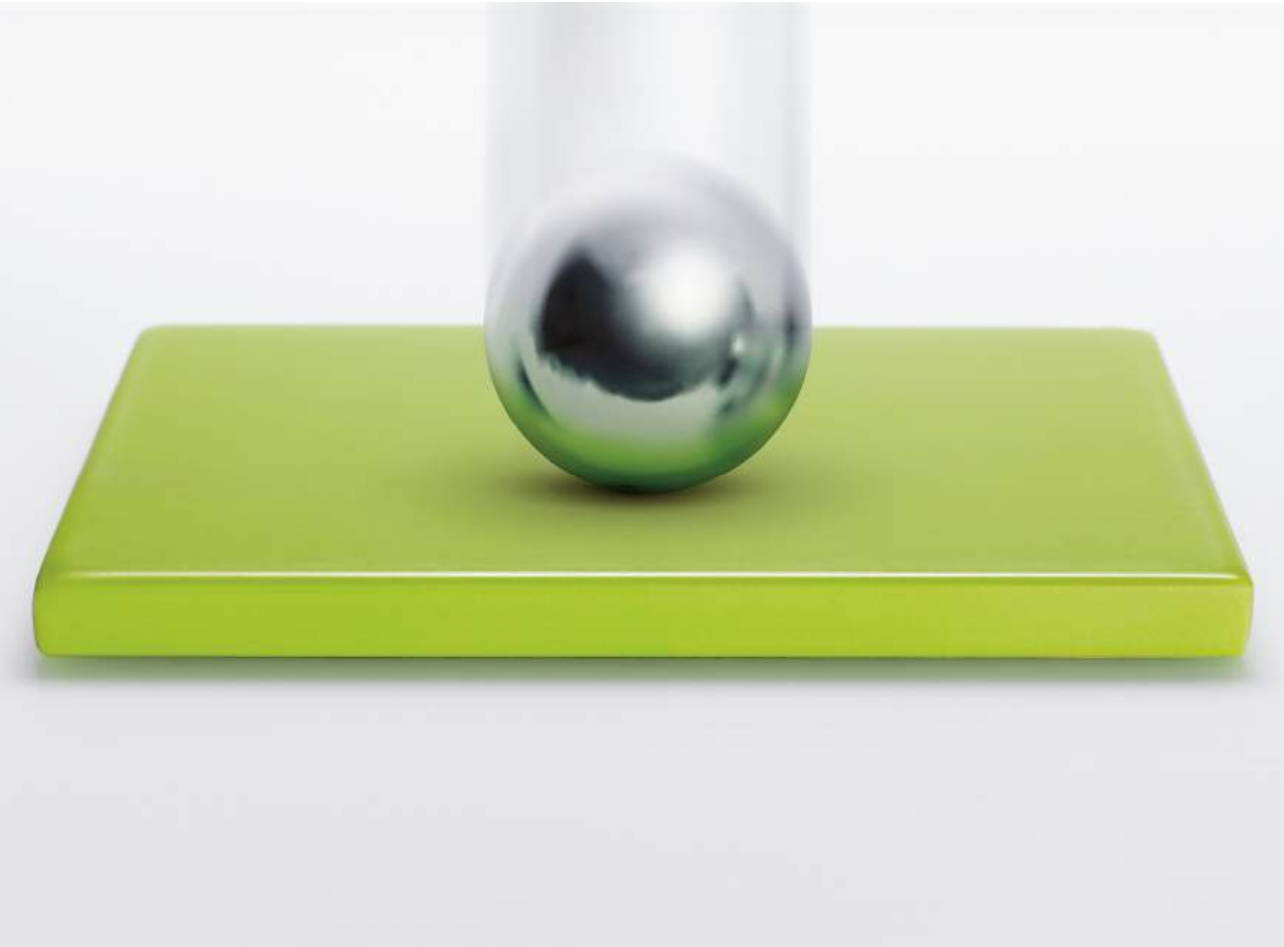
Leaves no trace	Leaves a trace, remove with	Active agent	Leaves no trace	Leaves a trace, remove with	Active agent
•	1	Acetic acid 95 %	•	1	ID 213 Dürr Dental disinfectant
•		Ammonia 10 %			Incidin Active 2%
		Ammoniumhydroxide (ammonia solution 28%)	•	1	Incidin Extra N 5%
	1	Anios D.D.S.H. disinfectant	•		Incidin Liquid (pure)
•		Antifect AF 1 %	•		Incidin Perfekt 3%
•		Bacillol AF	•		Incidin Plus 3%
•		Baktolin basic	•		Incidin Rapid 2%
•		Baktolin wash lotion	•		Incidur 3%
•		Betadin		1	Into
		Betaisodona (cleaner)		2	Iodine (1% alcoholic solution)
•	1	Biokusid disinfectant	•	1	Kamillosan
	1	Bombastus Propar	•	1	Kiehl SanEco concentrate
	1	Braunoderm	•		Kohrsolin extra 3%
	1	Braunol 2000	•		Meliseptol Rapid
	1	Buraton rapid disinfectant	•		Melsept SF 2%
•		Carbon tetrachloride		1	Methanol
	4	Chloroform 100 %	•		Mikrobac forte 2.5%
	1	Chloroform solution		1	Milizid Sanitary Cleaner
•		Citric acid 10%		2	Mitoxantrone 10 Hexal solution
•		Cleansept (dental sector)		2	Multibionta (continuous intravenous sololution)
	1	Cutasept G	•		Octenisept, dyed
	1	Desderman (N)	•		Perform disinfectant 3%
•		Desderman pure	•		Petrol
•		Desifor B 2 %	•		Promanum
•		Desifor forte AF 3 %	•		Propanol
•		Desifor Quick		1	Pyralvex
•		Desmanol disinfectant	•		Rilan
	1	Diesin Forte 3 %		1	Rivanol
	1	Diethyl ether		2	Saffron solution
•		Dismozon Pur 4 %		1	Sekusept (powder), disinfectant
•		Disoinfectant cleaner AF 3 %	•		Septoderm
	1	Esemtan bath oil	•		Skinman Soft
•		Ethanol		1	Sodium hydroxide 10%
	1	Fala neutral cleaner		4	Sodium hydroxide 40%
	1	Fala Ofan fresh sanitary cleaner	•		Sodium hypochlorite
	1	Floortop floor care product	•		Sodium sulphate
	1	Forol surface cleaner	•		Spitacid
	1	Freka Sept 80 hand disinfectant	•		Spitaderm disinfectant
	1	Gigasept AF forte 5 %	•		Sterillium hand and skin disinfectant
	1	Gigasept instru AF	•		Sterillium Virugard
	1	Gigasept med	•		Terralin liquid, undiluted
	1	Gigasept PAA concentrate	•		Terralin Protect 2%
	1	Gigazyme	•		Trichloroacetic acid
•		Grotanat	•		Trisodium phosphate
	1	Helipur	•		Urea 6 %
•		Hexaquart forte 2 %	•		Vinegar
•		Hexaquart plus 2 %			
•		Hydrogen peroxide			

Other substances on request.



Technical properties

Panels and moulded parts comply with the requirements of ISO standard 19712 1-3.



Technical properties

Panels and moulded parts comply with the requirements of ISO standard 19712 1-3.

Properties	Measured values	Test bases
Specific weight	1.55 – 1.74 g / cm³ at 20°C	according to DIN ISO 1183
Elastic modulus	10.900 N/mm²	according to DIN 53457
Flexural strength (12-mm panel)	60 ± 5 N/mm²	according to DIN 53452
Tensile strength	41 N/mm²	according to EN ISO 527-1
Compressive strength	115 ± 10 N/mm²	according to EN ISO 604
Impact strength (12-mm panel)	6.5 kJ/m²	according to DIN EN ISO 179
Impact resistance, ball drop 450 g (12-mm panel)	no break at 100 ± 10 cm drop height	according to ISO 19712-2
Joint strength with bonding	60–80% material strength	according to ISO 527
Barcol hardness	65 ± 5	according to DIN EN 59
Erichsen scratch resistance, ground surface	0.6 N	according to DIN EN 438-2
Surface resistance	R _{0A} = 3.3 x 10 ¹³ Ω	according to DIN 53482
Contact resistance	P = 3.1 x 10 ¹⁴ Ω · cm	according to DIN 53482
Volume conductivity	s = 3.2 x 10 ⁻¹⁵ Ω ⁻¹ · cm ⁻¹	according to DIN 53482
Tracking resistance	CTI 600	according to IEC 60112
Thermal conductivity at 20°C: λ- value	1.3 W/m · K	according to DIN 52612
Dimensional stability at heat 60' at constant 70°C (12 mm)	no measurable change	according to ANSI Z 124.3 (6.3)
Coefficient of thermal expansion	5.05 x 10 ⁻⁵ K ⁻¹	according to ASTM D 696
Resistance to boiling water	no visible change	according to ISO 19712-2
Resistance to dry heat	no visible change up to 200°C	according to ISO 19712-2
Resistance to wet/dry changes	no change	DIN EN 263
Resistance to cigarette burns	no change after removing the tar residues	according to ISO 19712-2
Flame retardancy	B1 conditions fulfilled for 12-mm sheet material	DIN 4102 Part 1
	B-s1, d0	EN 13501-1+A1: 2013
Deutsche Bahn fire testing	S4 / SR2 / ST2	DIN 54837 / DIN 5510
Rail vehicle fire protection (tests were conducted on the colour Polaris)	HL3 for R1	EN 45545-2 2016
VKF fire protection application	fire index 5.3	VKF Switzerland
Migration testing	approved for food contact	IANESCO EU Regulation No. 10/2011
Volatile organic compounds (VOCs)	A+	French Regulation DEVL1101903D and DEVL1104875A
Polycyclic Aromatic Hydrocarbons (PAHs)	compliance with requirement	AfPS GS 2014:01 PAK
Processing dust, toxicological behaviour	harmless to health in compliance with TLV	certif. by Dept. of Occupational, Social and Environm. Medicine of Jena University
Antibacterial efficacy	highly effective	ISO 22196
Antiviral properties (optionally possible)	Antiviral efficacy of 96% after 120 minutes	ISO 21702:2019
Light fastness	blue scale > 6	ISO 4892-2 (proc. A without sprinkling)
Stain resistance	rating 4 - 5	ISO 19712-2
Chemical resistance	rating 4 - 5	ISO 19712-2
Water resistance	compliance with requirement	ANSI Z 124.3 (6.0)
Anti-slip properties	C	DIN 51097
Sound absorpt. coef. between 50 and 5000 Hz	α _s 0,01 - 0,1	ISO 354
Longitudinal velocity	C _l = 2,604 m/s	
Material loss factor for structure-borne sound	η = 0,01 in the mid-frequency range	
Calorific value	13.3802 MJ/kg	DIN 51900
Disposal	waste code 17 02 03	plastic waste
.....		
Moulded parts:		
Cold / hot water alternating test:		
Kitchen sink 90 °C / 15 °C	CE compliant (> 5.000 cycles)	according to DIN EN 13310
Sanitary wash basin 70 °C / 15 °C	CE compliant (> 5.000 cycles)	according to DIN EN 14688
.....		

Tests were conducted on the colour White alpine.



The environment and VARICOR®

The protection of the environment and health is a fundamental requirement for all construction products. It is not just a matter of reducing energy consumption, exhaust gases and waste water during production. Products' environmental impact is the focus of public attention, and social and economic aspects are becoming increasingly important, in other words sustainable development is essential. A product's entire life cycle is relevant, from the use of resources and energy through all production stages to the usage phase and disposal.

What is VARICOR®?

VARICOR® is a solid-surface material, 2/3 of which consists of the natural filler alumina trihydrate (ATH), also known as aluminium hydroxide, and 1/3 of high-quality copolymers as binders. A further component, and responsible for the colouring of the material, is colour pigments based on mineral substances. VARICOR® is available both as semi-finished products (panels and basins) and as finished parts, e.g. made-to-measure washbasins and customer-specific bespoke moulded parts.

How is VARICOR® produced?

Production is divided into three stages:

- Preparation of the raw materials: ATH and pigments
- Production of the modified copolymer
- Manufacture of VARICOR® by combining the above components.

VARICOR® procures the raw materials required for production from a variety of suppliers. When selecting them, we make sure that the requirement of environmentally conscious production are taken into account.

Where is VARICOR® used?

The VARICOR® solid-surface material is a highly versatile product, with its advantages particularly evident in high-quality interior fittings, sanitary ware, and kitchen installations. Thanks to its non-porous nature, the surface is extremely hygienic and easy to clean, making VARICOR® ideal for sensitive areas such as laboratories and medical technology.

VARICOR® is also ideal for applications where space is at a premium, such as is often required in the field of transportation engineering (aviation, and ship and train construction).

VARICOR® fabrication

VARICOR® is a solid-surface material that can be fabricated with woodworking machines and tools. Fabrication may generate dust, but it is harmless to humans in this composition if the threshold limit values (TLV) are observed. The special polyester and acrylic adhesives used emit volatile organic vapours which, however, do not pose any hazards if the work area is adequately ventilated. During fabrication, it is important that the manufacturer's instructions are followed closely.

Does VARICOR® give off emissions in daily use?

When the specified production processes and regulations are followed, the monomers present in the material are converted into polymers during curing. These processes are strictly monitored by the company's own laboratory, and the individual production lots are only released after a full inspection. VARICOR® has also undergone an overall migration audit (food law assessment) by independent institutes. The material met the very high requirements of this audit. The mineral pigments used do not contain any heavy metals and are free of toxic or carcinogenic substances.



Disposing of VARICOR®

With VARICOR® some of the waste generated during production and processing is reused. Colours contained as granulates in our standard finishes are ground to granulates and returned to production. VARICOR® waste that is not suitable for reuse is passed on via appropriate disposal companies to companies that use such products, e.g. as filling material. Another possibility is the thermal recycling of residual waste, as no toxic gases occur when it is incinerated properly, and the resins used as binders and the energy they contain can be fully utilised.

Packing

When packaging our products, we take care to minimize packing materials and reuse them wherever possible. Packaging that can no longer be used can be recycled or used thermally to generate energy.

For VARICOR, environmental protection and sustainability are not empty phrases!

- Production takes place in the heart of Europe, ensuring short transport routes. The raw materials are also sourced within Europe.
- High level of in-house production: From the laboratory and mold making to various casting systems and material processing —everything is available at the plant.
- Products made from VARICOR® are high-quality and typically used for decades, conserving resources over the long term.
- A particularly high proportion of the material surplus generated during the processing and manufacture of VARICOR® is fed back into the products of the optional ECO Series. This makes these products especially sustainable, conserves resources, and saves energy.
- The non-porous, homogeneous, and fully through-colored material can be cleaned and refurbished with minimal effort. Even stubborn dirt or signs of wear are not an issue!
- In the event of mechanically caused damage, VARICOR® can be restored to full functionality, and usually almost invisibly, using a special repair kit.

This ensures the long-lasting value and high-quality appearance of VARICOR® for many years.



VARICOR GROUP:

**Sales
Germany + Europe**

VARICOR GmbH
Waldstraße 33
76571 Gaggenau

TEL: +49 (0) 7225/97 39-0
FAX: +49 (0) 7225/97 39-49
MAIL: info@varicor.com

**Sales
France**

VARICOR SAS

TEL: +33 (0) 1 77 48 53 50
FAX: +33 (0) 1 77 48 53 55
MAIL: contact@varicor.com

**Headquarters +
Production**

VARICOR SAS
30 Rue de la Scierie
67130 Wisches

TEL: +33 (3) 88 47 55 20
FAX: +33 (3) 88 47 32 55
MAIL: wisches@varicor.com

www.varicor.com

This document has been prepared with the utmost care. Nevertheless, technical inaccuracies or printing errors cannot be completely ruled out. Therefore, we assume no liability for the completeness or correctness of the documentation. All dimensional and shape specifications are subject to material-specific tolerances in accordance with DIN ISO 2768-1-2 cL. We reserve the right to change product and material specifications at any time in the course of the ongoing development of our products, without prior notice.