TOPLAB PLUS

LABORATORY WORKTOPS

INTERIOR PANELS

Think Trespa

TRESPA®

Arch. Mühlbacher, Germany

TRESPA TOPLAB^{PLUS} – FOR CLEAN AND STERILE SURFACES

Today's laboratory needs to meet the highest international standards. Therefore, selecting the right material for laboratory worktops and furniture is of crucial importance in an environment where tests and experiments must not be contaminated.

Hygiene, cleanliness, chemical and stain resistance are key requirements. Worktops in laboratories are especially vulnerable. The material used for them needs to be hygienic, easy to clean and maintain, durable, flexible and in line with international standards.

Increasingly, there is also an additional requirement to find environmentally friendly solutions – to minimise ecological impact and maximise effectiveness.

Trespa TopLab^{PLUS} - the ideal and flexible solution

Trespa TopLab^{PLUS} panels meet the requirements of most laboratories while at the same time bringing a range of additional benefits. These include chemical, wear and water resistance.

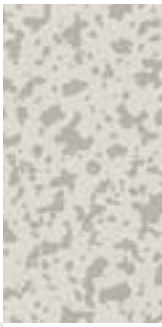
Trespa TopLab^{PLUS} is a self supporting flat panel, based on thermosetting resins, homogeneously reinforced with wood based fibres and manufactured under high pressure and at high temperatures. The panels have an integrated decorative surface using proprietary EBC technology. This process ensures that each panel is pore-free and resistant to a large number of aggressive chemicals, easy to clean, disinfect and maintain.

The surface is impermeable to most reagents used in all types of laboratories and is resistant to the effects of wear and tear – making Trespa TopLab^{PLUS} ideal for use in labs used by different working groups, such as in educational institutions and industrial environments.

These properties make Trespa TopLab^{PLUS} highly suitable for use in medical and clean room conditions. It can be used in the most challenging environments for many years without losing its good looks or functions.

Trespa TopLab^{PLUS} - a sustainable and green product

Environmental considerations play a significant role in the development and manufacture of Trespa TopLab^{PLUS}. For the production of Trespa TopLab^{PLUS} panels, Trespa uses a method for converting softwood from certified forests into an attractive, durable, moisture resistant and low maintenance material. Trespa TopLab^{PLUS} is an environmentally sound solution for laboratory worktop applications both today and tomorrow.



Arch. Zongke, China

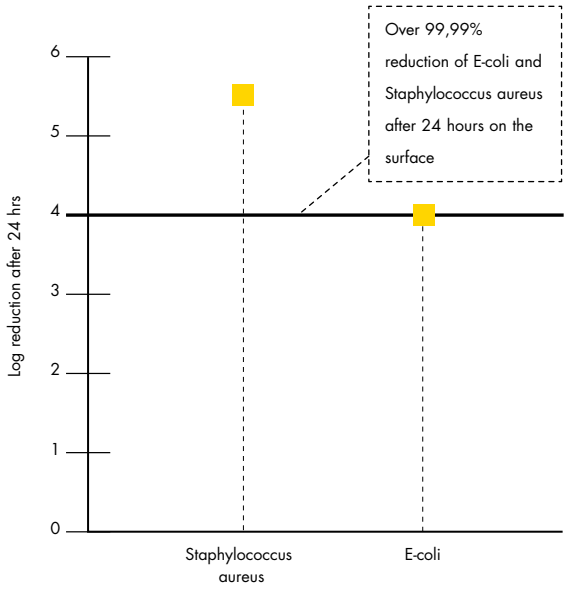
Quest, The Netherlands

TRESPA TOPLAB^{PLUS} - A UNIQUE COMBINATION OF PROPERTIES

Antimicrobial performance

Thanks to its unique surface composition, Trespa TopLab^{PLUS} is non porous. Its anti-microbial properties are incorporated in the product without the use of coatings or additives. This means that these properties will remain active throughout the product's lifetime. Bacteria, moulds and/or other micro-organisms are unable to grow or penetrate the surface. Bacteria stains will dry relatively fast on the surface – and bacteria will not find any source of nutrition on the material. Independent tests by the British Industrial Microbiological Services Ltd (IMSL) show a reduction in bacteria of 99.99% after 24 hours.

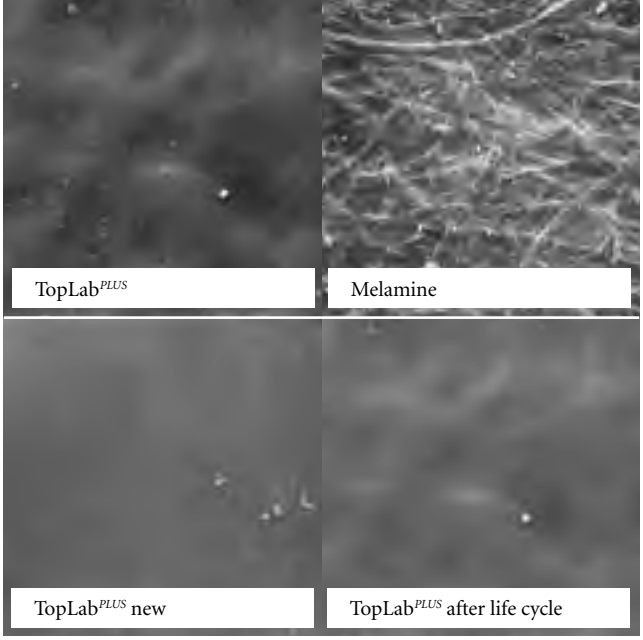
Reduction of colony forming units (cm²) on Trespa TopLab^{PLUS} surface



Tested by using the Japanese Industrial Standard JIS Z 2801: 2000.

The photographs have been taken with the aid of a Scanning Electron Microscope. They clearly demonstrate the difference between a surface produced with Trespa EBC technology (Trespa TopLab^{PLUS}) and a surface of traditional melamine.

These microscopic pictures of the urethane-acrylic surface of Trespa TopLab^{PLUS} show that there is no difference between fresh material and material with which 10 years of aggressive cleaning is simulated.




Arch. EGM, The Netherlands

Cleanability

In an environment where hygiene is key, Trespa TopLab^{PLUS} provides the best choice. Its surface is absolutely impervious to most materials used in biochemical and medical laboratories: radio-isotopes, human tissue and blood samples or bacteria. Biological or clinical test results are dependent on non-contamination. Trespa TopLab^{PLUS} provides a surface impermeable to most bacteria, molds or micro-organisms. Resistant to dyes and organic solvents, Trespa TopLab^{PLUS} is water-resistant and remains easy to clean or disinfect.

Trespa TopLab^{PLUS} is self supporting from 13mm thickness and has a high load bearing ability. This together with the size of panels available, allows larger worktop areas to be installed using fewer joints thus fitting the requirements for hygienic applications. Trespa TopLab^{PLUS} panels should be mechanically fixed to the subframe to ensure stability.

Chemical resistance

Used extensively in chemical, analytical, micro-biological and educational laboratories world-wide, Trespa TopLab^{PLUS} is resistant to a large number of aggressive chemicals. They will not mark a Trespa TopLab^{PLUS} surface - if cleaned within 24 hours. Test results show the panel's 24 hour resistance (see separate Trespa TopLab^{PLUS} test datasheet).

Durability

Trespa TopLab^{PLUS} is ideal for a multi-functional environment. Trespa TopLab^{PLUS} worktops are versatile and provide a tough and long-lasting surface that retains its good looks for many years. Used as part of a mobile and flexible environment, Trespa TopLab^{PLUS} delivers added strength to any laboratory or lecture room. The material's impact resistance makes it suitable for use in mobile furniture, e.g. trolley tops.

Arch. HOK, USA

Arch. Mühlbacher, Germany

TRESPA TOPLAB*PLUS* – MEETING MARKET NEEDS

Design flexibility & fast transformation

Today's laboratory is a fast moving professional working environment. On the one hand it needs to house an array of testing and technical equipment as well as computers and their peripherals. On the other hand, there is a need for frequent changes to accommodate new tests or changes in operating requirements.

Trespa TopLab*PLUS* facilitates the fast transformation of the laboratory. The material offers maximum design flexibility because it behaves in a similarway to hardwood. It can be machined and formed to meet the particular needs of the laboratory. Sinks, drainage holes, grooves and other accessories can be incorporated. Once installed, Trespa TopLab*PLUS* can be easily adapted to accommodate changes in working practice. It can be recut and retrofitted with new taps, sinks or other equipment, without losing its exceptional performance characteristics and its appearance.

Pleasant working environment

A well appointed and attractive laboratory provides an efficient, effective and pleasant environment.
Trespa TopLab*PLUS* brings additional benefits aesthetics. Panels are available in a range of colours to suit the specific needs of the facility's users.

Trespa TopLab*PLUS* has a non-reflecting smooth surface. This makes it highly suitable as a multi-functional surface on which laboratory equipment, computers and general work, such as administration, analysis and research, can all be combined.

Trespa TopLab*PLUS* is also available with an integrated decorative surface on both sides which widens the design possibilities and offers chemical and mechanical strength on those areas where it is needed on both sides. Shelves, compartments ... A workstation can be tailored to specific needs and still meet all the requirements of a laboratory.

Certification

Trespa TopLab*PLUS* meets all the highest standards as laid down by leading national and international certifying authorities. It has been determined by the GREENGUARD® Environmental Institute (USA) that Trespa TopLab*PLUS* meets GREENGUARD® emission standards. Trespa TopLab*PLUS* has been GREENGUARD Indoor Air Quality Certified® and has also been GREENGUARD Indoor Air Quality Certified under the GREENGUARD for Children & Schools℠ product certification program. Trespa TopLab*PLUS* holds the British Industrial Microbiological Services Ltd (IMSL) certification for anti-microbial performance, the certificate for hygiene from the german Institut für Krankenhaushygiene und Infektionskontrolle (IKI) and the german ISEGA certificate of conformity for contact with foodstuffs.

Unilever, The Netherlands

Sustainability

Trespa International actively undertakes to maximize the performance of its products, whilst minimizing their effects on the environment and on human health. Trespa was one of the first producers of panel materials to be certified according to ISO 14001, awarded by Lloyd's Register. The ISO 14001 standard describes the steps required for setting up, implementing, sustaining and improving a fully integrated environmental management system.

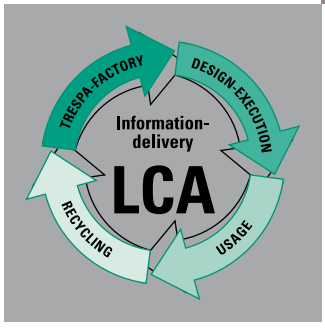
Trespa International supports its product-range with Life Cycle Analyses (LCAs) – studies which detail the environmental impact of each of their products throughout its life from "cradle to grave" – in terms of energy use, raw materials etc.

Totally safe

The production of Trespa TopLab*PLUS* is environmentally responsible and totally safe in use. Trespa TopLab*PLUS* panels are based on thermosetting resin, homogeneously reinforced with up to 70% wood-based fibres. The majority of the used raw materials are rapidly renewable. At the end of the life-cycle, Trespa's products can be thermally recycled in a common industrial incinerator with high energy recovery and landfill is also possible. All in accordance with national or local disposal regulations. At the end of the life-cycle, Trespa's products can be thermally recycled.

A logical choice

Trespa TopLab*PLUS* has been applied as the material of choice for many high standard laboratories around the world. With a strong emphasis on performance, cleanliness, environmental impact and aesthetics, Trespa TopLab*PLUS* is the ideal surface solution for your laboratory.



Arch. Zongke, China

Trespa International B.V.
Trespa International B.V. specialises in high quality panel material for façade cladding and interior use. Trespa has both the expertise and the means to develop products for specific segments of the market. Trespa is continually looking for ways to protect the environment even more effectively.

Trespa guarantees quality of both products and services. We offer our customers optimal technical support as well as straightforward documentation. Proof of this approach is the award of the ISO 9001 and ISO 14001 certificates.

Whatever your requirements, Trespa offers a full support service. Please contact us for further information.

Conditions of Sale
To all our offers, quotations, sales, deliveries and supplies and/or agreements, and to all related services and activities the Trespa International B.V. General Conditions of Sale apply, filed at the Venlo Chamber of Commerce on 11 April 2007, registered under number 24270677, and appearing on the website at www.trespa.com. The text of these General Terms and Conditions will be sent to you upon request.

Responsibility
We believe all information in this publication to be correct at the time of printing. It is intended as information concerning our products and their application possibilities and is therefore, not intended as any form of guarantee with regard to any specific product characteristic.

Colours
The colours in this document are printed, and therefore, may vary slightly from the original Trespa panel colours with respect to gloss, colour shades and surface texture. Original samples are available on request.

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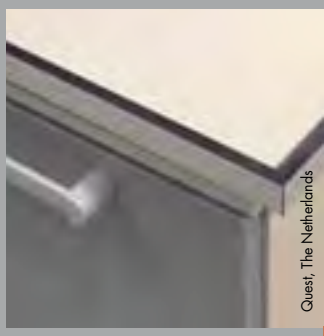
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COLOUR CARD TRESPA TOPLAB*PLUS*

Uni colours

T 18.0.1 Mystic White	
T 03.0.0 White	
T 03.1.0 Pastel Grey	
T 30.0.1 Polar Green	
T 05.0.1 Limestone Yellow	
T 03.4.0 Silver Grey	
T 21.1.1 Glacier Blue	

T 09.3.4 Canyon Red	
T 90.0.0 Black	

Speckles

D 02.0.8 Mystic White/Blue	
D 02.0.9 Limestone Yellow/Saffron	
D 02.1.0 Pastel Grey/Silver	

The colours in this document are printed, and therefore, may vary slightly from the original Trespa panel colours with respect to gloss, colour shades and surface texture. Original samples are available on request.

Disclaimer: All Trespa samples and all Trespa panels are produced within the specified tolerances. Samples and production panels do not originate from the same production batch. The colour perception is by nature influenced by slight variations in pigments used as well as by the angle of observation.

TRESPA TOPLAB^{PLUS} - CHEMICAL RESISTANCE

(24 HOURS EXPOSURE)

Test procedure

The test was conducted by applying 5 drops of each reagent on the surface, covered with a watch glass (except those marked**). Chemicals marked ** were tested with a saturated cotton ball covered by a bottle. All chemicals were tested at room temperature for a period of 24 hours, rinsed off with water and evaluated.

Test results

No effect: No detectable stain, loss of gloss or change in work surface material.
Excellent: Slight stain or loss of gloss, but no change to the function, smoothness or life of the work surface material.
Good: A clearly discernible stain or loss of gloss, but no change to the function, smoothness or life of the work surface material.
Fair: Unacceptable staining or discernible deterioration or etching of the work surface material.
Failure: Severe stain or moderate deterioration, pitting cratering or etching of work surface material.

		No effect	Excellent	Good	Fair	Failure
Acids						
Acetic Acid	99%	■				
Acid Dichromate	5%	■				
Chromic Acid	60%	■				
Formic Acid	90%	■				
Hydrochloric Acid	10%	■				
Hydrochloric Acid	37%	■				
Hydrofluoric Acid	48%					■
Nitric Acid	20%	■				
Nitric Acid	30%		■			
Nitric Acid	65%			■		
Nitric Acid	70%			■		
Nitric Acid 65% : Hydrochloric Acid 37%	(1:3)	■				
Perchloric Acid	60%	■				
Phosphoric Acid	85%	■				
Sulphuric Acid	25%	■				
Sulphuric Acid	33%	■				
Sulphuric Acid	77%	■				
Sulphuric Acid	85%	■				
Sulphuric Acid	98%		■			
Sulfuric Acid 77% : Nitric Acid 70%	(1:1)			■		
Sulfuric Acid 85% : Nitric Acid 70%	(1:1)			■		
Bases						
Ammonium Hydroxide	28%	■				
Sodium Hydroxide	10%	■				
Sodium Hydroxide	20%	■				
Sodium Hydroxide	40%	■				
Sodium Hydroxide Flake		■				
Salts						
Copper Sulphate	10%	■				
Ferric(III)chloride	10%	■				
Potassium Iodite	10%	■				
Potassium Permanganate	10%	■				
Saturated Zinc Chloride		■				
Silver Nitrate	1%	■				
Sodium Chloride	10%	■				
Sodium Hypochlorite	13%	■				
Halogens						
Iodine (Crystals)			■			
Iodine Solution (0.1 N)			■			
Tincture of Iodine		■				
Organic Chemicals						
Cresol		■				
Dimethylformamide		■				
Formaldehyde	37%	■				
Furfural			■			

		No effect	Excellent	Good	Fair	Failure
Gasoline		■				
Hydrogen Peroxide	3%	■				
Phenol	90%	■				
Sodium Sulfide Saturated		■				
Solvents**						
Acetic Anhydride		■				
Acetone		■				
Acetonitrile		■				
Amyl Acetate		■				
Benzene		■				
Butyl Alcohol		■				
Carbon Tetrachloride		■				
Chloroform		■				
Dichlor Acetic Acid		■				
Dichloromethane		■				
Dioxane		■				
Diethyl Ether		■				
Ethylacetate		■				
Ethylalcohol		■				
Ethylene Glycol		■				
Methylalcohol		■				
Methylene Chloride		■				
Methylethylketone		■				
Methylisobutylketone		■				
Mono Chlorobenzene		■				
Napthelene		■				
n-Butyl Acetate		■				
Tetrahydrofurane		■				
n-Hexane		■				
Toluene		■				
Trichloroethylene		■				
Xylene		■				
Biological Stains						
Acridine Orange	1%	■				
Alizarin Complexone Dihydrate	1%	■				
Aniline Blue, water soluble	1%	■				
Basic Fuchsin	1%	■				
Carbol Fuchsin	1%	■				
Carmine	1%	■				
Congo Red	1%	■				
Gentian Violet (dye)	1%	■				
Eosin B	1%	■				
Giemsa Stain	1%	■				
Malachite Green Oxalate	1%	■				
Methyl Violet 2B	1%	■				
Methylene Blue	1%	■				
Safranine O	1%	■				
Sudan III	1%	■				
Wright Stain	1%	■				
Most conventional cleaning agents		■				

The chemicals mentioned in the above table include the 49 chemicals/concentrations listed by SEFA (Scientific Equipment and Furniture Association) as well as the main reagents from the PSI (Professional Service Industries/Pittsburgh Laboratory Division).

All information is based on our current state of knowledge. It is intended as information concerning our products and their application possibilities, and is therefore not intended as any form of guarantee with regard to any specific product characteristic. Test results differ per colour.

Although the tests have been conducted according to the standard, it is recommended that users conduct their own tests: convince yourself that Trespa TopLab^{PLUS} is the only true multifunctional worktop!

DELIVERY PROGRAMME TRESPA TOPLAB*PLUS*

Panel sizes	3050 x 1530 mm (120 x 60 in) 2550 x 1860 mm (100 x 73 in)	
Type / Surface structure	Coloured on one side, non decorative black reverse Crystal Matt (decor side) / Satin (reverse side)	
	Coloured on both sides Crystal Matt / Crystal Matt	
	Crystal Matt is a very fine surface with a matt sheen recommended for horizontal applications	
Quality	Standard / black core	
Panel thicknesses	13 mm (1/2 in) 16 mm (5/8 in)	20 mm (3/4 in) 25 mm (1 in)

MATERIAL PROPERTIES TRESPA TOPLAB*PLUS*

For all Uni-colours mentioned in the standard Trespa TopLab*PLUS* delivery program.
For other colours data available on request.

Properties	**Value**	**Unit**	**USA Value**	**Unit**	**Standard**
Physical properties					
Density	≥ 1350	kg/m³	≥ 84.24	lbs/ft³	ISO 1183
Weight					
Thickness 13 mm (1/2 in)	± 18,5	kg/m²	± 3.8	lbs/ft²	
Thickness 16 mm (5/8 in)	± 22,5	kg/m²	± 4.6	lbs/ft²	
Thickness 20 mm (3/4 in)	± 28,0	kg/m²	± 5.7	lbs/ft²	
Thickness 25 mm (1 in)	± 35,0	kg/m²	± 7.2	lbs/ft²	
Panel Tolerance					
Length & Width	- 0,0/+5	mm	- 0.0/+0.2	in	EN 438
Thickness	± 0,6 for 13	mm	± 0.024 for 1/2	in	EN 438
	± 0,7 for 16	mm	± 0.028 for 5/8	in	
	± 0,8 for 20 and 25	mm	± 0.031 for 3/4 -1	in	
Optical properties					
Resistance to dry heat at 180°C	≥ 4	Rating			EN 438
Resistance to wet heat at 100°C	≥ 4	Rating			EN 12721
Resistance to crazing	≥ 4	Rating			EN 438
Resistance to colour change (UV-A)	≥ 6	Wool scale			ASTM G53-91 (315 - 400nm)
Mechanical properties					
Modulus of elasticity	≥ 9000	N/mm²	≥ 1,300,000	psi	ISO 178
Tensile strength	≥ 70	N/mm²	≥ 10,100	psi	ISO 527-2
Flexural strength	≥ 100	N/mm²	≥ 14,500	psi	ISO 178
Resistance to impact by large diameter ball					EN 438
Drop height	1800	mm	71	in	
Diameter of indentation	≤ 10	mm	≤ 0.4	in	
Resistance to scratching	≥ 4	Rating			EN 438
Wear resistance for standard quality					EN 438
Initial point	≥ 150	Revolutions			
Wear value	≥ 350	Revolutions			

Region	**Quality**	**Fire classification**	**Standard**
Behavior in case of fire			
European Union	Type Standard	Euroclass D-s2d0	EN 438-7

Please note: Due to the CE-marking HPL panels have to be tested in accordance with EN 13501-1. National authorities decide on (the moment of) introduction of this standard in its building codes.

Please check www.trespa.com for the latest version of the material properties and delivery programme.

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