# LABORATORY WORKTOPS INTERIOR PANELS



TRESPA®





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# TRESPA TOPLAB<sup>PLUS</sup> – 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 needs to be hygienic, easy to clean and maintain, durable and flexible.

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

# Trespa TopLab<sup>PLUS</sup> – the ideal and flexible solution

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

Trespa TopLab<sup>PLUS</sup> is a self supporting flat panel, based on thermosetting resins, homogeneously reinforced with wood based fibers 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 non-porous 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 and wear and tear – making Trespa TopLab<sup>PLUS</sup> ideal for use in labs utilized by different working groups, such as in educational institutions and industrial environments.

These properties make Trespa TopLab<sup>PLUS</sup> highly suitable for use in medical laboratories and clean room conditions. It can be used in the most challenging environments for many years without losing its appearance or function.

# Trespa TopLab<sup>PLUS</sup> - 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.

Trespa was one of the first manufacturers of construction products to map the totality of its products effects by means of a life-cycle analysis (LCA), right from the source of the raw materials to the end of the life-cycle.

## **Designing for the Future**

- > Optimum panel sizes to reduce waste
- > Preferred panel thicknesses to reduce sub-frames
- > EBC surface technology to reduce cleaning and maintenance
- > Up to 70% wood based fibers made from sustainable resources
- > The majority of the raw materials used are made from sustainable resources
- > Ensuring emissions and discharge are within acceptable limits
- > Eliminating toxic and corrosive gases
- > Improving reduction of waste, storage and delay
- > Organizing efficient delivery and optimum routes



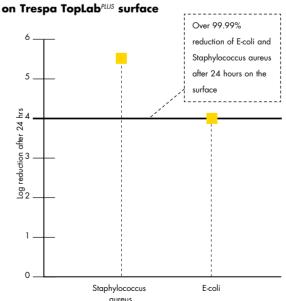


# TRESPA TOPLABPLUS - A UNIQUE COMBINATION OF PROPERTIES

## **Antimicrobial performance**

Thanks to its unique surface composition, Trespa TopLab<sup>PLUS</sup> 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, molds and/or other microorganisms are unable to grow or penetrate the surface. Bacteria stains will dry relatively fast on the surface – and 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.

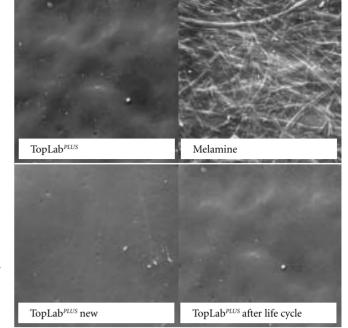
## Reduction of colony forming units (cm²)



<sup>\*</sup> 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<sup>PLUS</sup>) and a surface of traditional melamine.

These microscopic pictures of the urethane-acrylic surface of Trespa TopLab<sup>PUIS</sup> show that there is no difference between fresh material and material with which 10 years of aggressive cleaning is simulated.





## Cleanability

In an environment where hygiene is key,
Trespa TopLab<sup>PLUS</sup> 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 noncontamination. Trespa TopLab<sup>PLUS</sup> provides a surface impermeable to most bacteria, molds or microorganisms. Resistant to dyes and organic solvents,
Trespa TopLab<sup>PLUS</sup> is water-resistant and remains easy to clean or disinfect.

Thanks to the large size of Trespa TopLab<sup>PLUS</sup> panels, the installation of large work tops with fewer joints is possible which fits the requirement for hygienic solutions. Moreover, for added hygiene, panels need not be glued onto a sub-structure.

Trespa TopLab<sup>PLUS</sup> is self supporting from 1/2 in thickness and has a high load bearing ability.

## **Chemical resistance**

Used extensively in chemical, analytical, micro-biological and educational laboratories world-wide, Trespa TopLab<sup>PLUS</sup> is resistant to a large number of aggressive chemicals. Test results (see separate Trespa TopLab<sup>PLUS</sup> test datasheet) show the panel's 24 hour resistance. Aggressive chemicals will not mark a Trespa TopLab<sup>PLUS</sup> surface - if cleaned within this time period.

## **Durability**

Trespa TopLab<sup>PLUS</sup> is ideal for a multi-functional environment. Trespa TopLab<sup>PLUS</sup> worktops are versatile and provide a tough and long-lasting surface that retains its appearance for many years. Used as part of a mobile and flexible environment, Trespa TopLab<sup>PLUS</sup> delivers added strength to any laboratory or lecture room. The material's impact resistance makes it suitable for use in mobile furniture, i.e. trolleys.







# TRESPA TOPLABPLUS – 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 similar way 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 in which to work. Trespa TopLab<sup>PLUS</sup> offers aesthetic benefits to the working environment. Panels are available in a range of colors to suit the specific needs of the facility's users.

Trespa TopLab<sup>PLUS</sup> 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<sup>PLUS</sup> 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, for example shelves and compartments. A workstation can be tailored to specific needs and still meet all the requirements of a laboratory.

## Certification

Trespa TopLab<sup>PLUS</sup> meets all the highest standards as laid down by leading national and international certifying authorities. Trespa TopLab<sup>PLUS</sup> is GREENGUARD Indoor Air Quality Certified® and has achieved GREENGUARD Children & Schools<sup>SM</sup> Certification. Trespa TopLab<sup>PLUS</sup> can also contribute to US Green Building Council LEED® credits. Trespa TopLab<sup>PLUS</sup> holds the British Industrial Microbiological Services Ltd (IMSL) certification for antimicrobial 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.





## Sustainability

Trespa International strives to maximize the performance of its products, while 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.

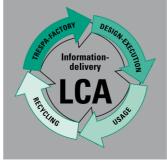
## Completely safe

The production of Trespa TopLab<sup>PLUS</sup> is environmentally responsible and completely safe in use. Trespa TopLab<sup>PLUS</sup> panels are based on thermosetting resin, homogeneously reinforced with up to 70% wood-based fibers. The majority of the used raw materials are made from sustainable resources.

## A logical choice

Trespa TopLab<sup>PLUS</sup> 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<sup>PLUS</sup> is the ideal surface solution for your laboratory.









Trespa International B.V.
Trespa International B.V. specializes in high quality panel material for facade 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.





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Building labs that shape the future labbuildersinc.com

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## **DELIVERY PROGRAM TRESPA TOPLAB**PLUS

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

## MATERIAL PROPERTIES TRESPA TOPLABPLUS

For all Uni-colors mentioned in the standard Trespa TopLab<sup>PLUS</sup> delivery program. For other colors data available on request.

Properties	Value	Unit	US 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/ft <sup>2</sup>	
Thickness 16 mm (5/8 in)	± 22.5	kg/m²	± 4.6	lbs/ft <sup>2</sup>	
Thickness 20 mm (3/4 in)	± 28.0	kg/m²	± 5.7	lbs/ft <sup>2</sup>	
Thickness 25 mm (1 in)	± 35.0	kg/m²	± 7.2	lbs/ft <sup>2</sup>	
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 (356°F)	≥ 4	Rating			EN 438
Resistance to wet heat at 100°C (212°F)	≥ 4	Rating			EN 12721
Resistance to crazing	≥ 4	Rating			EN 438
Resistance to color change (UV-A)	≥ 6	Wool scale			ASTM G53-91 (315 - 400nm)
Mechanical properties					
Modulus of elasticity	≥ 9000	$N/mm^2$	≥ 1,300,000	psi	ISO 178
Tensile strength	≥ 70	$N/mm^2$	≥ 10,100	psi	ISO 527-2
Flexural strength	≥ 100	$N/mm^2$	≥ 14,500	psi	ISO 178
Resistance to impact by large					EN 438
diameter ball					
Drop height	1800	mm	71	in	
Diameter of indentation	≤ 10	mm	≤ 0.4	in	
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

Region	Available	Standard
Certificates		
North America	GREENGUARD Indoor Air Quality Certified® GREENGUARD Children & Schools <sup>SM</sup>	FC2Lp94711-3 FC2Lp94711-3

# COLOR CARD TRESPA TOPLABPLUS

## **Uni colors**



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 color perception is by nature influenced by slight variations in pigments used as well as by the angle of observation.



## Speckles



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



## TRESPA TOPLABPLUS - CHEMICAL RESISTANCE

(24 HOUR 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 Lodine		-				
Organic Chemicals						
Cresol						
Dimethylformamide		-				
Formaldehyde	37%	-				
Furfural			-			

	No effect	Excellent	Good	Fair	Failure
Gasoline	•				
Hydrogen Peroxide 39	6 ■				
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					24 RESIS
Methylalcohol					
Methylene Chloride					24
					RESIG
Methylethylketone					- 0/3
Methylisobutylketone					
Mono Chlorobenzene					
Napthelene					
n-Butyl Acetate					
Tetrahydrofurane					
n-Hexane					
Toluene	-				
Trichloroethylene	-				
Xylene					
Biological Stains	,				
Acridine Orange					
Alizarin Complexone Dihydrate 19					
Aniline Blue, water soluble					
Basic Fuchsin 19					
Carbol Fuchsin					
Carmine 19					
Congo Red 19					
Gentian Violet (dye) 19					
Eosin B 19					
Giemsa Stain 19					
Malachite Green Oxalate 19					
Methyl Violet 2B					
Methylene Blue	6 ■				
Safranine O	6 ■				
Sudan III 19	6 ■				
Wright Stain 19					
Most conventional cleaning agents					

The chemicals in the above table include the 49 chemicals/concentrations set forth by SEFA 8 (Laboratory Casework) specifications as well as the main reagents from independent testing via 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 color.

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