TRESPA® TOPLAB®

Welcome,
we will start soon

SEPT 2022



TRESPA®

TRESPA® TOPLAB®

Selecting the right material for your laboratory, Why TopLab® ?

MARCH 2022



TRESPA®

WHAT IS THE DIFFERENCE?

TRESPA®

WHAT IS THE DIFFERENCE?

TRESPA®

WHAT IS THE DIFFERENCE?

It is all about your angle, your interest and your decision to know and understand about details that make the difference

TRESPA®

SELECTING THE RIGHT MATERIAL FOR YOUR LABORATORY

- About Trespa® and TopLab®
- What is a Trespa® panel?
- Trespa® TopLab® detailed product range
- Trespa® TopLab® in pictures

TRESPA®

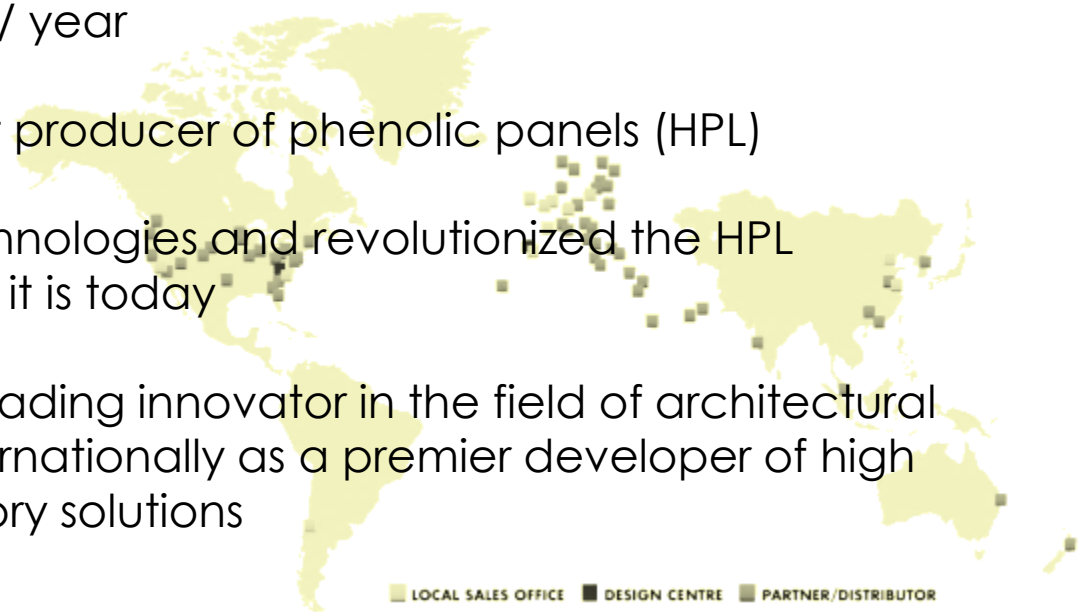
ABOUT TRESPA®

AND TOPLAB®

(Corporate presentation, TopLab® in laboratories…)

ABOUT TRESPA®

- Established in 1960
- 600 people, 6.000.000 m2 / year
- One of the World's largest producer of phenolic panels (HPL)
- Developed patented technologies and revolutionized the HPL Compact market to what it is today
- Trespa International is a leading innovator in the field of architectural materials, recognized internationally as a premier developer of high quality panels for laboratory solutions



- A dedicated team of 24 people for the Scientific Surface Solutions

TRESPA HISTORY

1960 German timber merchant Hermann Krages founds Thermopal, a manufacturer of high-pressure laminates in Weert, the Netherlands.

1961 The sales organization is established for the Netherlands.

1963 German company Hoechst acquires the business and forms a joint venture with Philips. The first panels are sold under the trade name of Trespa.

1967 Launch of **Trespa Volkern**, a 12mm thick, fully homogenous and stronger laminate ideal for desktops.

The innovative years

1969 Trespa Volkern is tested outdoors, and it's used as a sunshade for an office building in Delft, the Netherlands. This marks the production of **panels for exterior applications.**

1972 Establishment of its first European branch in Belgium. Germany (1980), United Kingdom (1983) and France (1988) will follow.

1984 Introduction of '**Dry Forming**', a new patented production technology for core materials based on wood fibers and phenolic resin. The process partly replaces the impregnation of Kraft paper.

1987 Development and patent of the **Electron Beam Curing technology** allows Trespa to switch from a melamine surface to a high-quality coating system that makes panels more durable and gives a high colour stability.
The innovation pushes the launch of Trespa Volkern G2.

TRESPA®

TRESPA HISTORY

1990
The façade of the UMC St. Radboud Hospital in Nijmegen, the Netherlands, is cladded with four Trespa® Meteon® decors.
Revisited in 2014, it displays minimal colour change.

1994
Trespa Volkern G2, Trespa Sanitary, Trespa Furniture and Trespa Laboratory are rebranded to
Trespa® Meteon®
Trespa® Athlon®
Trespa® TopLab®

1995
Trespa International B.V. is born.

1996
Trespa International is acquired by HAL Holding NV.

1997
Trespa® North America is created as the first non-European branch.

1998
Launch of Trespa® TopLab® *PLUS* high performing surfaces for laboratory worktops

The exploring and inspiring years

Driving the industry

2001
A 30-compartment press is put into production, the largest press in the world at that time.

2003
Introduction of Trespa® Meteon® Wood Decors.

2004
Trespa obtains ISO 14001 Certification.

2005
Launch of Perspectives, platform of communication and inspiration for architects which focuses on 3 design concepts: Depth, Character and Rhythm.

2008
Trespa introduces the ZF panel size (4270 x 2130 mm).

2011
Opening of the Trespa Design Centre in Barcelona, Spain. The Trespa Design Centre in Santiago, Chile, follows in 2012.

2012
Development of the Matt Finish, which gives the panels a Matt look from every angle.

TRESPA®

TRESPA HISTORY

2013

Development of Trespa® Meteon® with Solar Reflectance Technology, which improves the heat reflection of the building envelope and makes it possible to design with darker colours in hot climates.

2014

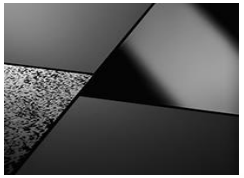
Trespa® Athlon is rebranded to Trespa® TopLab® *BASE* and Trespa® Virtuon is rebranded to Trespa® TopLab® *VERTICAL*.

2015

Introduction of the next generation of Trespa's Electron Beam Curing (EBC) technology. Developed in house, this state-of-the-art technology gives Trespa® TopLab® *PLUS* and Trespa® TopLab® *VERTICAL* its surface properties.

2016

Development of Trespa® Meteon® Lumen and Focus and finishes Diffuse, Oblique and Specular.
Furthermore a grey core technology is introduced to improve the chemical resistance.



Driving the industry & future technologies

2019

Sustainability is a key part of Trespa's strategy. Trespa launches the Trespa Second Life Programme, where façade panels - instead of being discarded as waste after use - can be reused as material for many other applications.

Trespa Second Life™

2020

TopLab® *VERTICAL* introduces more than 100 colour options in several finishes.

60 YEARS

Opening of **NEMHO** (Next Material House).

R&D function for all the companies acquired and aligned by Broadview Holding. NEMHO will further drive the technological advancement of surface chemistry and product innovation for world class product performance.

nemho next material house

TRESPA®

TRESPA HISTORY

2021

TopLab® *PLUS ALIGN* is launched!

A new market standard is set as this product has up to 85% bio-based carbon content.
Substituting 50% of phenol included in the resin with **lignin, a renewable material**

2022

TopLab® *VERTICAL* introduces Lumen, Metallics & Focus as part of standard range

Driving the industry & future technologies

TRESPA OPERATES IN 2 MARKET SECTORS

EXTERIOR SOLUTIONS

- TRESPA® METEON®
- TRESPA® IZEON®
- PURA® NFC BY TRESPA

INTERIOR SOLUTIONS - SCIENTIFIC SURFACE SOLUTIONS)

- TRESPA® TOPLAB® *PLUS*
- TRESPA® TOPLAB® *VERTICAL*
- TRESPA® TOPLAB® *BASE*

TRESPA® TOPLAB® IN LABORATORIES

1st Generation of Electron Beam Curing in **1987**

TopLab® first launched in **1994**

TopLab® *PLUS* **launched in 1999**

- **More than 500.000m2 of laboratory solutions sold in 2019**
- **More than 3.000.000 m2 of laboratory worktops sold since 2014**
- **More than 7000 projects in labs in the last 7 years**

New Generation of Electron Beam Curing introduced in 2015

TopLab® *PLUS ALIGN* launched in 2022, with up to 85% Bio-based content

⇒ This is the latest generation of Lab grade product in HPL panels in the world

SEFA **member since 1995. Actual Co chair member**

7 times winner/supplier of the lab of the year contest in the last **9 years**

TRESPA®

TRESPA® TOPLAB® IN LABORATORIES

Trespa® TopLab® solutions at the heart of laboratory design

TRESPA®

TRESPA® TOPLAB® IN LABORATORIES

Trespa® TopLab® solutions at the heart of laboratory design

Wall and reagent shelving

TRESPA®

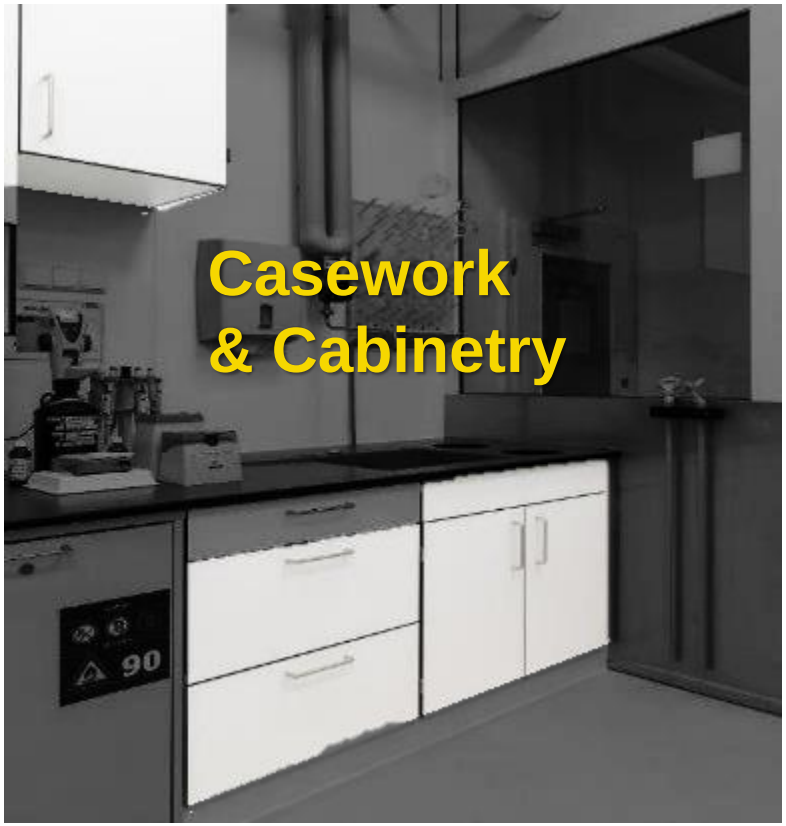
TRESPA® TOPLAB® IN LABORATORIES

Trespa® TopLab® solutions at the heart of laboratory design

TRESPA®

TRESPA® TOPLAB® IN LABORATORIES

Trespa® TopLab® solutions at the heart of laboratory design



TRESPA®

TRESPA® TOPLAB® IN LABORATORIES

Trespa® TopLab® solutions at the heart of laboratory design

TRESPA®

TRESPA® TOPLAB® IN LABORATORIES

Trespa® TopLab® solutions at the heart of laboratory design

TRESPA®

TRESPA® TOPLAB® IN LABORATORIES

Trespa® TopLab® solutions have been selected in the most recent **R&D Lab of the Year Competition**:

2011: The King Abdullah University for Science & Technology, **Saudi Arabia**

2012: Wisconsin Institutes for Discovery Madison, WI, **USA**

2015: South Australian Health & Medical Research Institute, Adelaïde, **Australia**

2016: Allen Institute, Seattle, **USA**

2017: The Francis Crick Institute, London, **UK**

2018: CJ Blossom Park, Seoul, **SOUTH KOREA**

2019: University of Texas, Dallas, **USA**
(Special Mention for Engineering Labs from R&D Magazine)

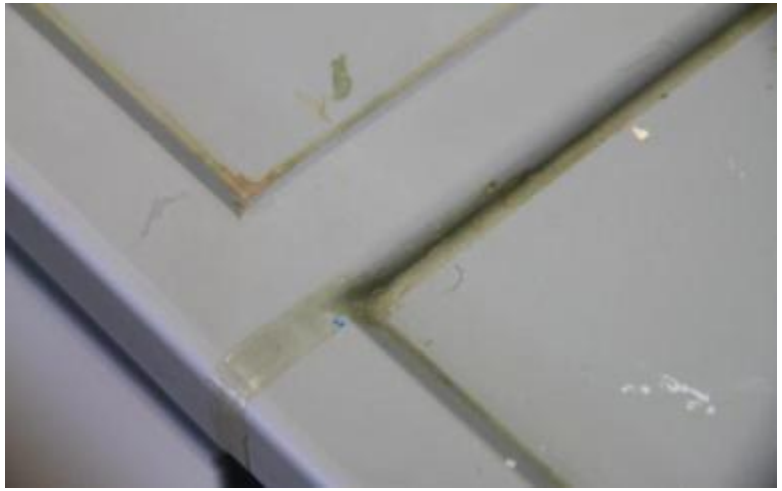
TRESPA®

WHAT IS A TRESPA®

TOPLAB® PANEL ?

(product build-up, main properties, certification, warranty & testimonials)

CONSEQUENCES OF A BAD CHOICE…



TRESPA®

PRODUCT BUILD UP

TopLab® BASE

OVERLAY IMPREGNATED WITH MELAMINE RESINS

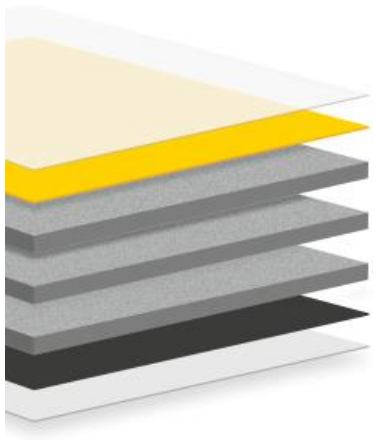
DECORATIVE PAPER IMPREGNATED WITH MELAMINE RESINS

IMPREGNATED KRAFT PAPER

DECORATIVE PAPER IMPREGNATED WITH MELAMINE RESINS

OVERLAY IMPREGNATED WITH MELAMINE RESINS

NATURAL FIBRE CORE FROM KRAFT PAPAER



TopLab® PLUS

TopLab® VERTICAL

FOIL

TOPCOAT

BASE COAT

SUBSTRATE

Electron Bean Curring

NATURAL FIBRE CORE FROM WOODCHIPS OR KRAFT PAPER

IMPREGNATED PREPREGS OR IMPREGNATED KRAFT PAPER

SUBSTRATE

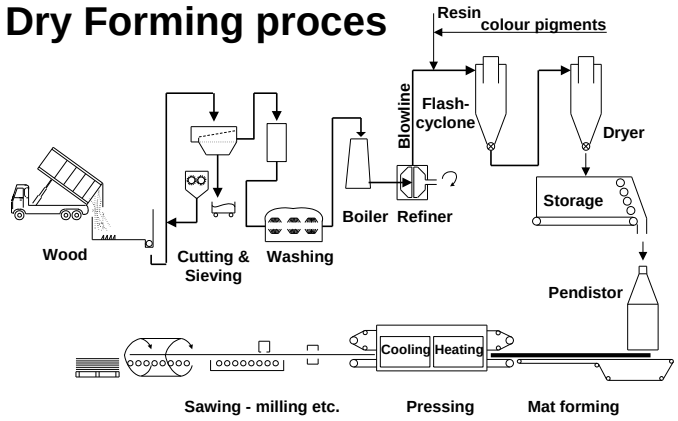
COATING

FOIL

TRESPA®

DRY FORMING (DF) – FROM WOOD CHIPS TO A SOLID CORE

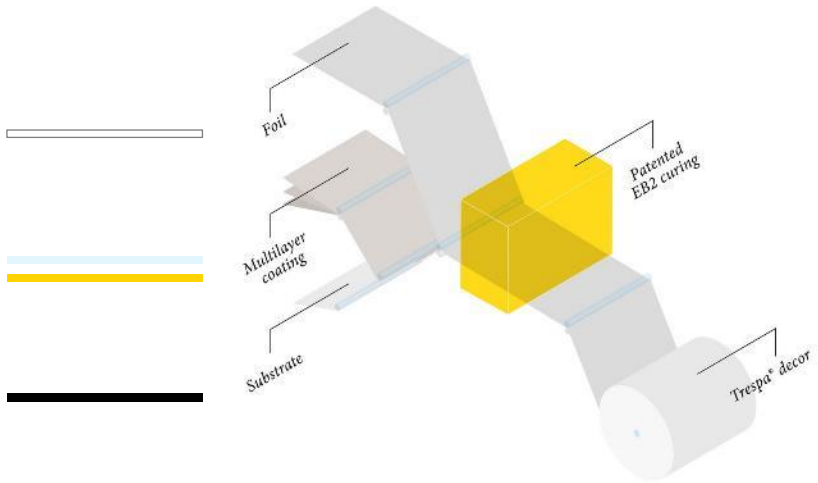
Woodchips and the new innovative lignin-based thermosetting resin are processed together with pigments in our in-house developed production technology for the core:
the dry forming process



Wood chips are unloaded at Trespa › They get washed, sieved and refined › Resin and pigment are added › The impregnated fibres are dried, pressed and cut into sheets

ELECTRON BEAM CURING (EBC) TECHNOLOGY

LAYER	DESCRIPTION	FUNCTION
FOIL	Transparent film	• Determines finish together with texture plate in the press
TOPCOAT	Transparent polyurethane **acrylic resin**	• Provides surface properties
BASE COAT	Pigmented polyurethane **acrylic resin**	• Provides desired color
SUBSTRATE	Impregnated kraft paper	• Carrier base coat

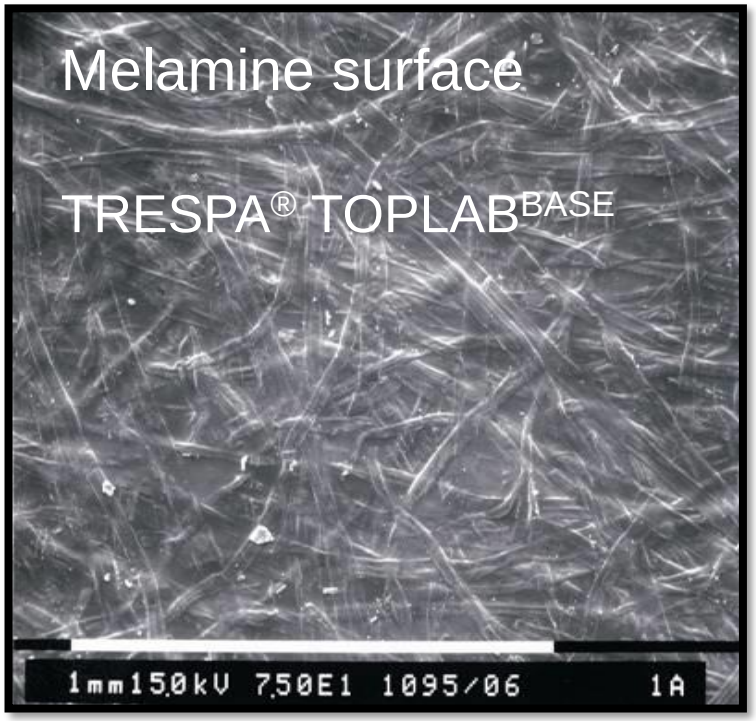


The in-house developed **Electron Beam** is used to make the unique Trespa décor. The EB uses high-energy electrons to cure (= harden) the acrylic-based surfaces.

The result is a closed and smooth decorative surface. During the pressing process, the décor substrate becomes a one single homogenous panel with the core, ensuring a perfect adhesion throughout the panel lifetime.

TRESPA®

EBC : UNIQUE SURFACE PROPERTIES

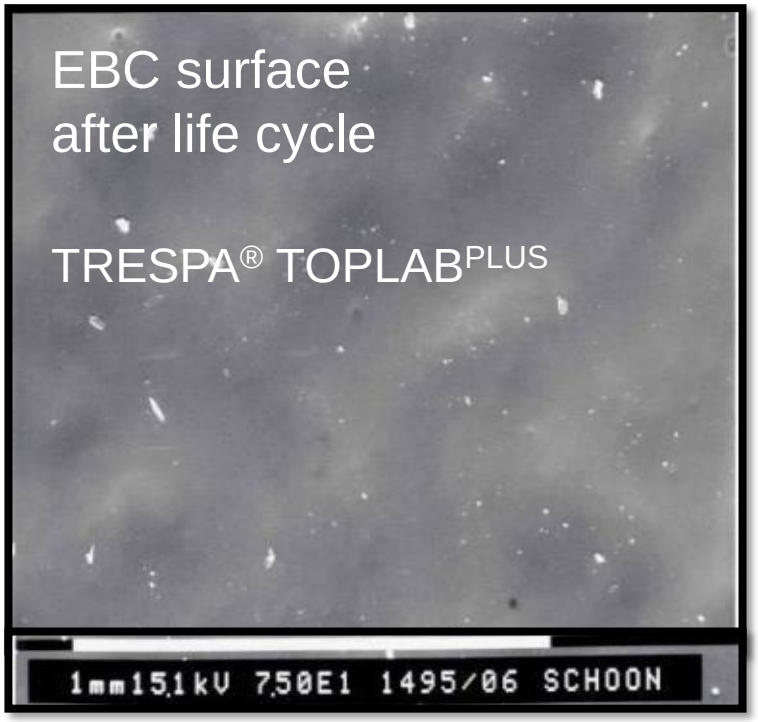


Photographs have been taken with the aid of a Scanning Electron Microscope

It clearly demonstrate the difference between a surface produced with Trespa® EBC technology 2 and a surface of traditional melamine or others with relation to smoothness, roughness and pores

TRESPA®

EBC : UNIQUE SURFACE PROPERTIES

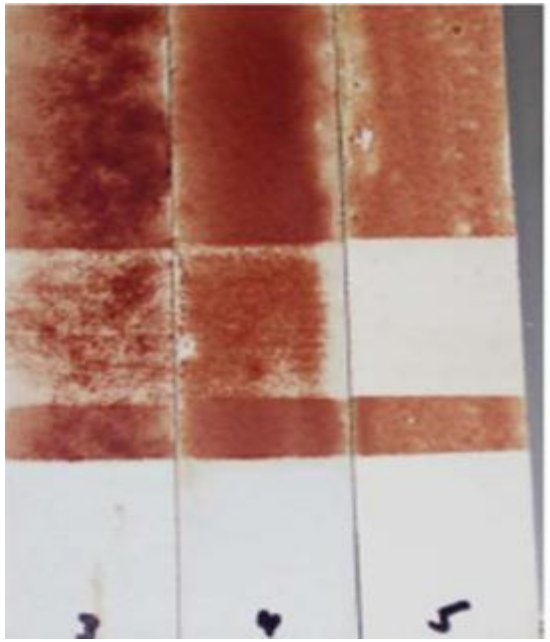


Photographs have been taken with the aid of a Scanning Electron Microscope

It clearly demonstrate the difference of both surfaces after simulation of 10 years of cleaning. EBC surface remain undamaged while traditional melamine surface has its fibers stretched and damaged, making cleaning and disinfection more difficult to achieve

TRESPA®

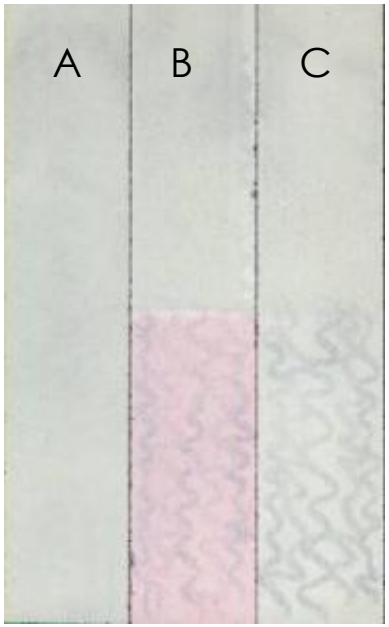
EBC : CLEANABILITY EFFECT



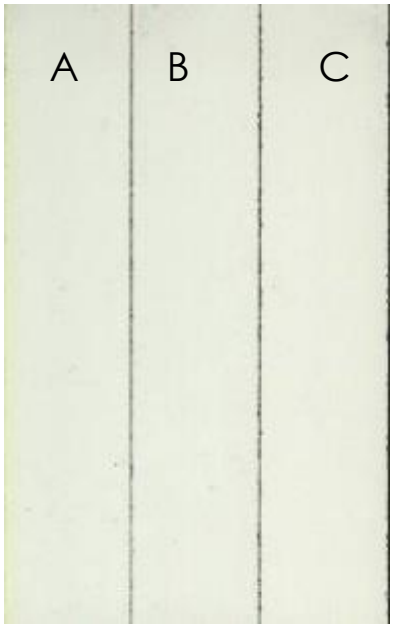
3 + 4 Melamin **5 EBC surface**

Sheep blood treatment

After contamination sponge cleaning
With double move



Melamine



EBC surface

A) Panel rinsed with water
B) Panel partly soaked in sanitary cleaner 1 for 24 hours
C) Panel partly soaked in sanitary cleaner 2 for 24 hours

After this procedure, cleaning of melamine is difficult on the treated part but very easy on the EBC surface.

TRESPA®

EBC : ANTIBACTERIAL PROPERTIES

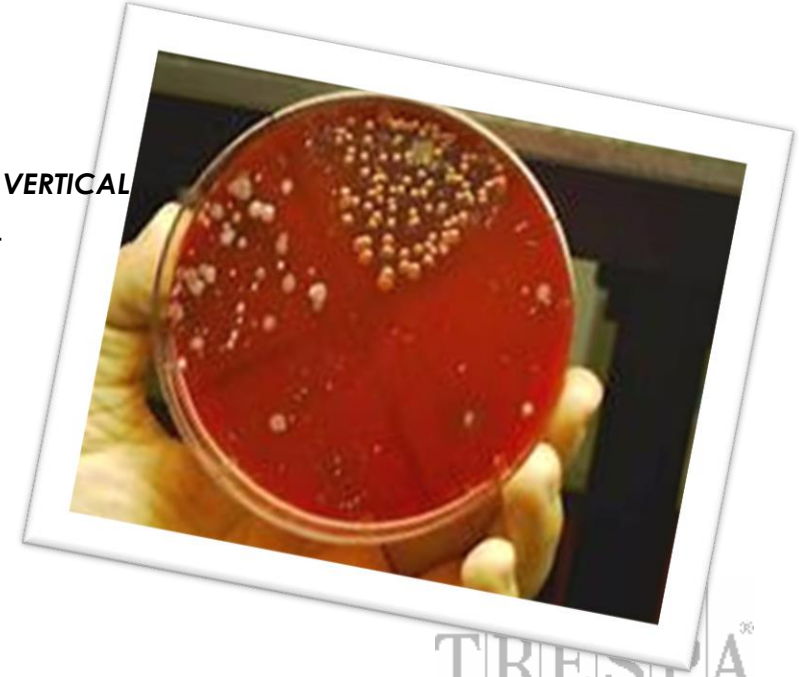
Non-porous surface

Impermeable for liquids

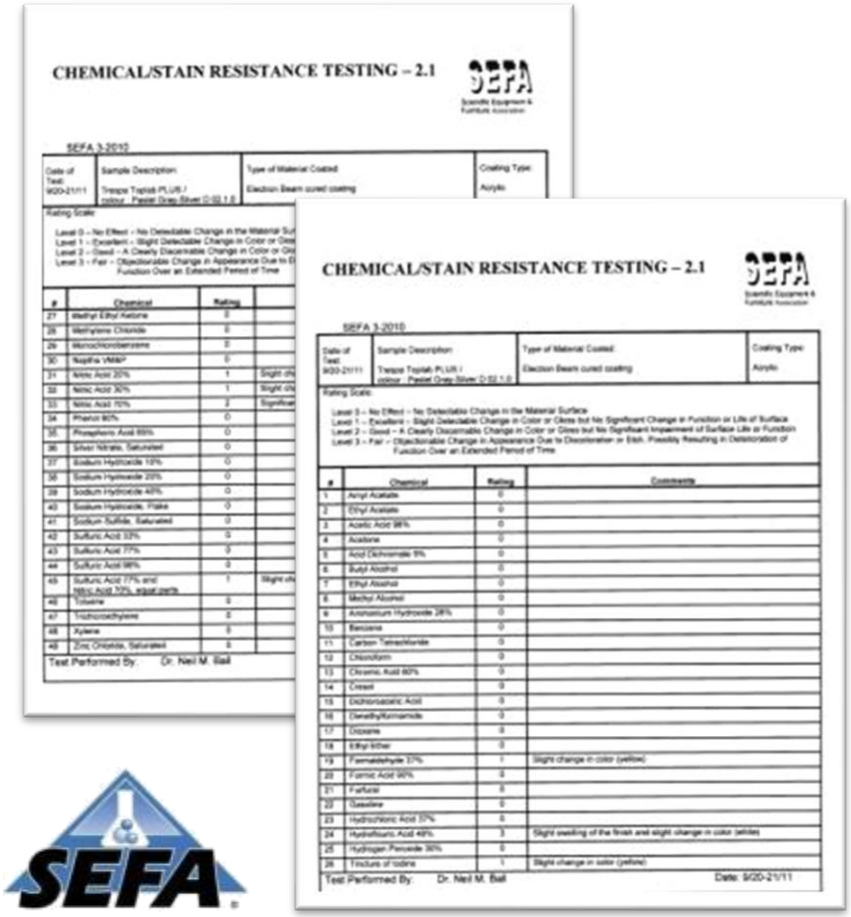
Possible hazards eleminated with limited efforts

Surface does not retain water: non-feeding ground for bacteria

Antimicrobial performance:
The surface of TopLab® ***PLUS*** and TopLab® ***VERTICAL*** shows that EBC surface does not support bacteria growth



EBC : UNIQUE CHEMICAL RESISTANCE

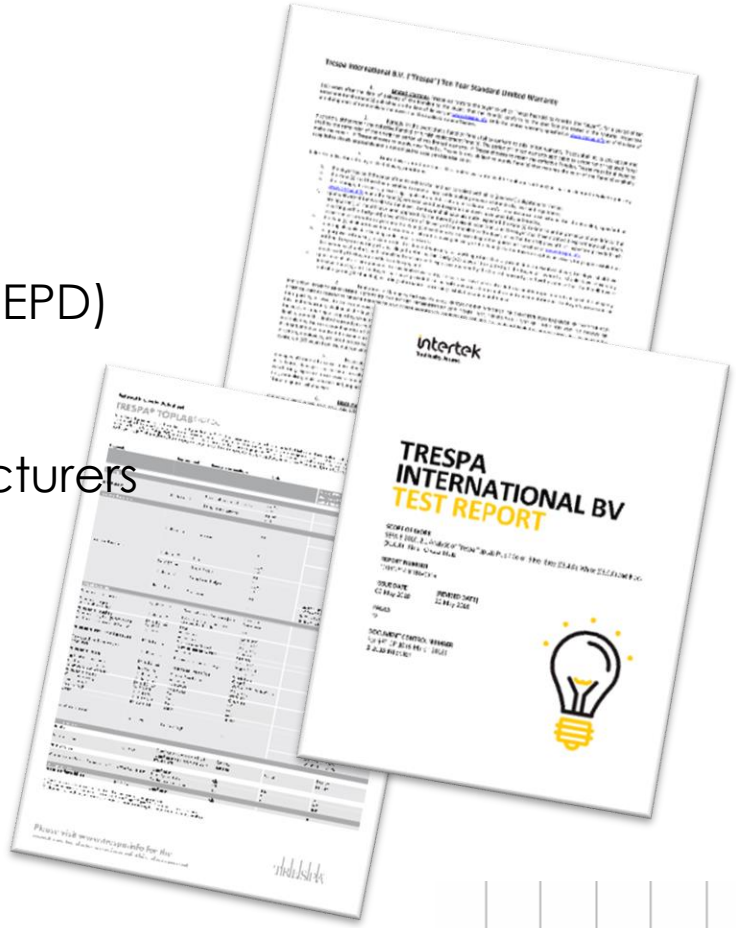


- SEFA develops standard for lab grade material, furniture and equipment for more than 20 years
- Trespa® is member of SEFA.
  Only SEFA members can apply and refer to SEFA certification/standards
- TopLab® products have official SEFA 3.0 and SEFA 8.0 certification from SEFA standards
- TopLab® ***PLUS*** best score is 6 for SEFA 3.0
- TopLab® ***BASE*** best score is 53 for SEFA 3.0
- Best known result for HPL manufacturer on SEFA certification (11/2020)

CERTIFICATION & WARRANTY

Trespa® and TopLab® panels have dozens of certification
In the world, including

- SEFA_3 **achieving 6 points**
- **Fraunhofer certification**
- 10 years warranty
- Greenguard & Greenguard Gold
- Environmental Product Declaration (EPD)
- European / USA certification
- Chinese / Indian certification
- Test reports from chemicals manufacturers
- ISO 9001
- ISO 14001



SEFA

GREENGUARD
GOLD

PEFC

FSC

Fraunhofer
IIS

TRESPA®

PROJECT OPTIMIZATION

TopLab® ***PLUS*** is avaialble **in 3 formats** to ensure **minimum cutting waste:**

- 3050 x1530 is ideal for worktops in multiple of 1500x750
- 2550 x 1860 is most suitable for worktops in 1200 x 600
- 3650 x 1860 is perfect for worktops in 1800 x 600/900

With less cutting loss, you **reduce waste**, you need fewer sheets, cheaper transportation costs and less import duties resulting in **less cash investment**

TopLab® ***VERTICAL*** is avaialble in **4 formats**: same 3 above + unique format of 4270 x 2130 aimed at wall claading application who needs fewer joins (cleanrooms, operation theaters)

TRESPA®

REFERENCES & TESTIMONIALS

IMAGINE TRESPA

"Anticipating change must be a design methodology. Designers must not only have a vision for the present, but a vision for the future."

USA
James Hill
Architect BSA LifeStructure
Indianapolis

"Science is universal but building codes and guidelines are local. So it is important that architects carefully adapt the lab design to often conflicting requirements from various regulatory agencies as well as different local requirements," says T.H. Chang, principal of Chang Consulting in New York. Chang has international experience planning and designing laboratories for a variety of clients – including universities, research institutions, major corporations and government agencies throughout the United States, Asia, Europe, and the Middle East. "Scientific research is one of the most mobile professions and, as the science is becoming more global, national boundaries are disappearing," he adds.

LOCAL CODES AND GMP

But whether the lab is located in North America or Asia-Pacific, for example, makes a difference in terms of which codes the designer has to follow. Both regions have life safety mandates that regulate the type of fire protection needed, what kind of safe exiting routes should be available, the quantities of and handling instructions for hazardous materials, and, in Australia at least, even the minimum corridor width.

Any lab also has to comply with standards based on the type of lab. In the United States, for example, biomedical research labs are generally designed to meet the Biosafety in Microbiological and Biomedical Laboratories (BMBL) Standard. "This standard, promulgated by the Centers for Disease Control and Prevention, and the National Institute of Health, categorizes laboratories according to the biosafety level: BSL1, BSL2, BSL3 and BSL4," explains James Hill, an architect at BSA LifeStructures in Indianapolis. "Laboratories developing drugs and other products that are used in humans are designed to GMP (Good Manufacturing Practices) Standard 21 CFR 58, promulgated by the Food and Drug Administration. The FDA has also developed other regulations for specific labs such as those developing radioisotopes used in PET and SPECT applications."

MULTI-DISCIPLINARY AND FUTURE-ORIENTED APPROACH

For Hill, once the codes are met, any lab design must also maximize flexibility while maintaining simplicity. "Anticipate change," he says "needs to be more than a catchy slogan, it must be a design methodology. Designers must not only have a vision for the present, but a vision for the future. Such an approach is holistic and multi-disciplinary involving the lab planner, architect, engineers and the client."

Principal Lab Architect Vino Mudaly of 2CA (in association with DJRD) in Australia, agrees. "Once the facility fits the purpose, the creativity comes into how flexible or interchangeable we can make the space with minimum impact on the functions it needs to cater for," he says. In order to do this, "architects and researchers need to speak the same language." Architects not only need to envision and understand the needs of the lab today, but they also need to understand the science, its purpose and goals. Then only can we predict how the lab can best anticipate the constantly evolving nature of scientific research and needs of the future. The best labs "align with tomorrow's technology."

"Science is universal but building codes and guidelines are local. So it is important that architects carefully adapt the lab design to often conflicting requirements from various regulatory agencies as well as different local requirements."

USA *T.H. Chang*
Principal of Chang Consulting New York

"Architects not only need to envision and understand the needs of the lab today, but they also need to understand the science, its purpose and goals."

AUSTRALIA *Vino Mudaly*
Principal, 2CA (in association with DJRD)

UNDERSTANDING THE USER'S REQUIREMENTS

When it comes to laboratory design, the first step for architects is to understand the purpose and needs of the scientists. "It is crucial to run the laboratories according to their requirements, whether that is chemical, biological, physical, medical laboratories or anything else," says Matthias Mühlbacher of firm Ingenieurbüro Mühlbacher GmbH, Ing. in Germany. One of the most fundamental requirements is energy conservation. "It is important to always consider energy-saving equipment concepts," Mühlbacher adds. These include for example lighting and ventilation measures that help reduce energy consumption.

Of course, regardless of the type of lab being built, all labs must follow the same national standards. "In Germany, architects and planners have to observe various guidelines, rules and standards for laboratories. The series *Working Safely in Laboratories - Basic Principles and Guidelines* has established itself as a popular and good set of rules," he explains. Indeed, the latest online edition incorporates updates from the expert committee for the chemical industry (Fachausschuss Chemie) and the German health and safety regulations for laboratories. Even the German Committee for Hazardous Substances has adopted parts of the guidelines into state legislation. One recent change in the guidelines is to ensure that all laboratory workplaces "must receive sufficient natural light and allow visual contact to the outside, as far as this can be made possible," according to the guidebook.

Within these guidelines there is still much room for creative design. And everyone involved in the laboratory planning helps bring creative ideas to bear, says Mühlbacher. When he and his team planned the chemical and mineral laboratory for the Institute of Inorganic Chemistry of the Faculty of Mathematics and Natural Sciences at Christian-Albrecht University for example, this interaction proved essential due to the very different needs of the researchers involved. In the end, Mühlbacher and his team provided an approximately 1,640 m2 laboratory, equipped with fume cupboards, pollutant gas scrubbers, a decentralized special gas supply, and special extractors. "The most rewarding aspect of working with Christian-Albrecht University was the contact with the users and the cooperation we had with them," he says.

"In Germany, the series Working Safely in Laboratories - Basic Principles and Guidelines has established itself as a popular and good set of rules."

GERMANY *Mathias Mühlbacher*
lab planner, Ingenieurbüro Mühlbacher, Ing

TRESPA®

REFERENCES & TESTIMONIALS

TRESPA®

TRESPA® TOPLAB®

PRODUCT RANGE

(formats, texture, thickness, color range…)

TRESPA® TOPLAB®

Vertical and Horizontal applications

TRESPA®

TRESPA® TOPLAB® *PLUS*

For Horizontal applications

- SMOOTH MACHINABILITY
- EASY TO CLEAN
- SCRATH & WEAR RESISTANCE
- IMPACT RESISTANCE
- QUICK INSTALLATION
- SUITABLE WITH CONTACT WITH FOOD
- 24H CHEMICAL RESISTANCE (SEFA 3 TEST)
- DOES NOT SUPPORT BACTERIAL GORWTH

TRESPA®

TRESPA® TOPLAB® *PLUS*

Colors

Available with **Slate Grey matching color core**

Project color with Minimum Order Quantities

PASTEL GREY SILVER
D02.1.0

FANTASY (D)

TRESPA®

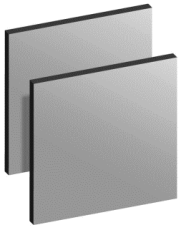
TRESPA® TOPLAB® *PLUS*

Standard Delivery Program

3 TYPES

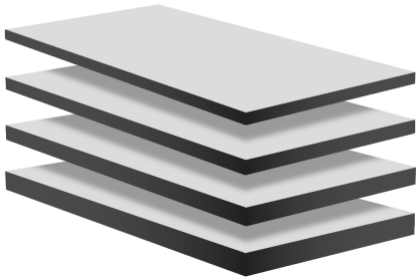
SINGLE SIDED DECORATIVE

DOUBLE-SIDED DECORATIVE



DUOCOLOR

4 THICKNESSES



*Grey core – 13,19, 25 mm

1 TEXTURE

CRYSTAL-MATT

3 SIZES

1. 2550 X 1860 MM
2. 3050 X 1530 MM
3. 3650 X 1860 MM

TRESPA®

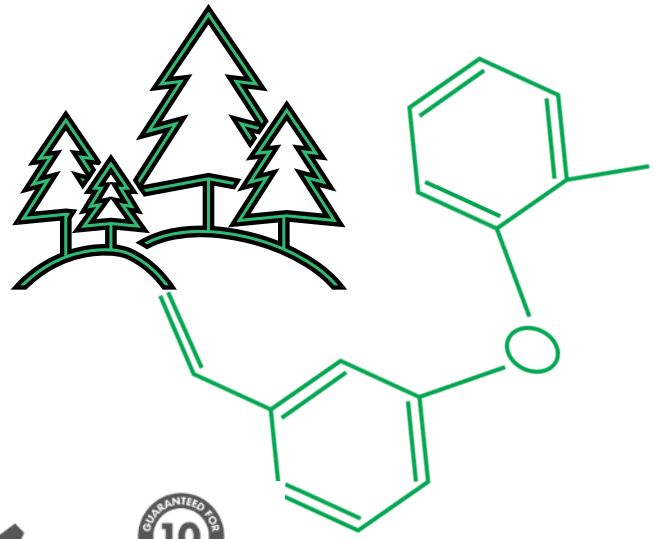
TRESPA® TOPLAB® *PLUS ALIGN*

85% Bio-based carbon content

Trespa® TopLab® ***PLUS ALIGN*** is made of a **combination of a resin with 50% bio-based lignin & dry forming** (wood chips).

Lignin is a renewable, bio-based material Natural glue
Lignin is a natural polymer that gives wood its rigidity and strength to resist external forces.

After cellulose, it is the second most abundant natural polymer in the world. It is a renewable raw material.



UP TO 85% BIO-BASED CARBON CONTENT

LIGNIN

MINDFUL DESIGN

NEWEST TECHNOLOGY

PASTEL COLOURS

24 HOURS CHEMICAL RESISTANCE

DOES NOT SUPPORT BACTERIAL GROWTH

SCRATCH & WEAR RESISTANCE

EASY TO CLEAN

SUITABLE FOR CONTACT WITH FOOD

IMPACT RESISTANCE

10 YEARS GUARANTEE

TRESPA®

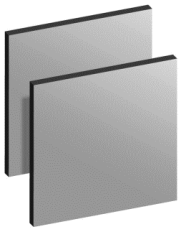
TRESPA® TOPLAB® *PLUS ALIGN*

Standard Delivery Program

3 TYPES

SINGLE SIDED DECORATIVE

DOUBLE-SIDED DECORATIVE



DUOCOLOR

2 THICKNESSES: 16mm and 20mm

2 SIZES

1. 2550 X 1860 MM
2. 3050 X 1530 MM

1 TEXTURE

CRYSTAL-MATT

Colour	Colour code	Colour name
	T22.7.1	Pastel Blue
	T07.4.8	Mid Greige
	T37.7.3	Pastel Green
	T05.0.0	Pure White
	T03.4.0	Silver Gray
	T90.0.0	Black

TRESPA®

TRESPA® TOPLAB® *VERTICAL*

For Vertical and horizontal applications

- SMOOTH MACHINABILITY
- EASY TO CLEAN
- SCRATH & WEAR RESISTANCE
- IMPACT RESISTANCE
- SUITABLE WITH CONTACT WITH FOOD
- CHEMICAL RESISTANCE (SEFA 8 TEST)
- DOES NOT SUPPORT BACTERIAL GORWTH
- QUICK INSTALLATION

TRESPA®

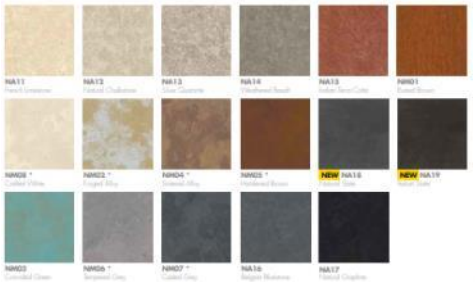
TRESPA® TOPLAB® *VERTICAL*

Colors

UNI COLOURS (K)

WOOD DECORS (KNW)

NATURALS (KNA/KNM)



Project color with Minimum Order Quantities

TRESPA® TOPLAB® *VERTICAL*

Standard Delivery Program

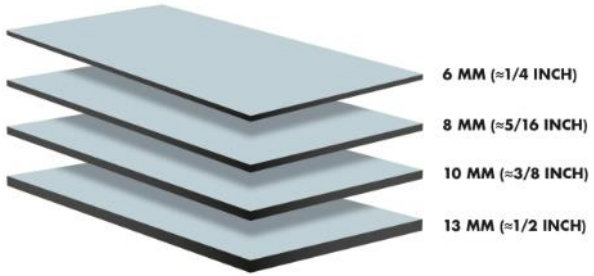
3 TYPES

SINGLE SIDED DECORATIVE

DOUBLE-SIDED DECORATIVE

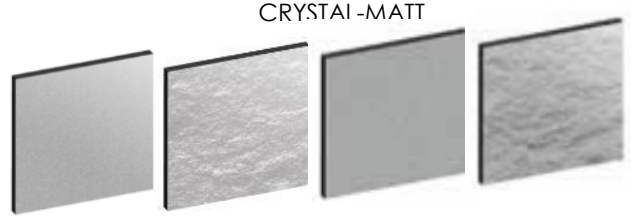
DUOCOLOR

4 THICKNESSES



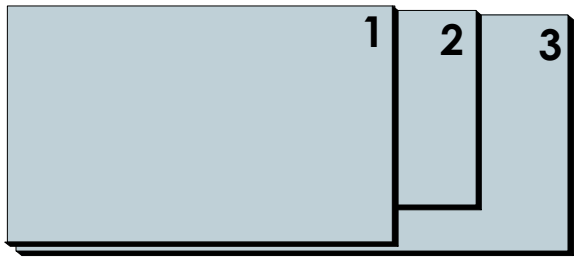
4 TEXTURES

CRYSTAL -MATT



SATIN ROCK MATT MATT-ROCK

3 SIZES



1. 2550 X 1860 MM
2. 3050 X 1530 MM
3. 3650 X 1860 MM

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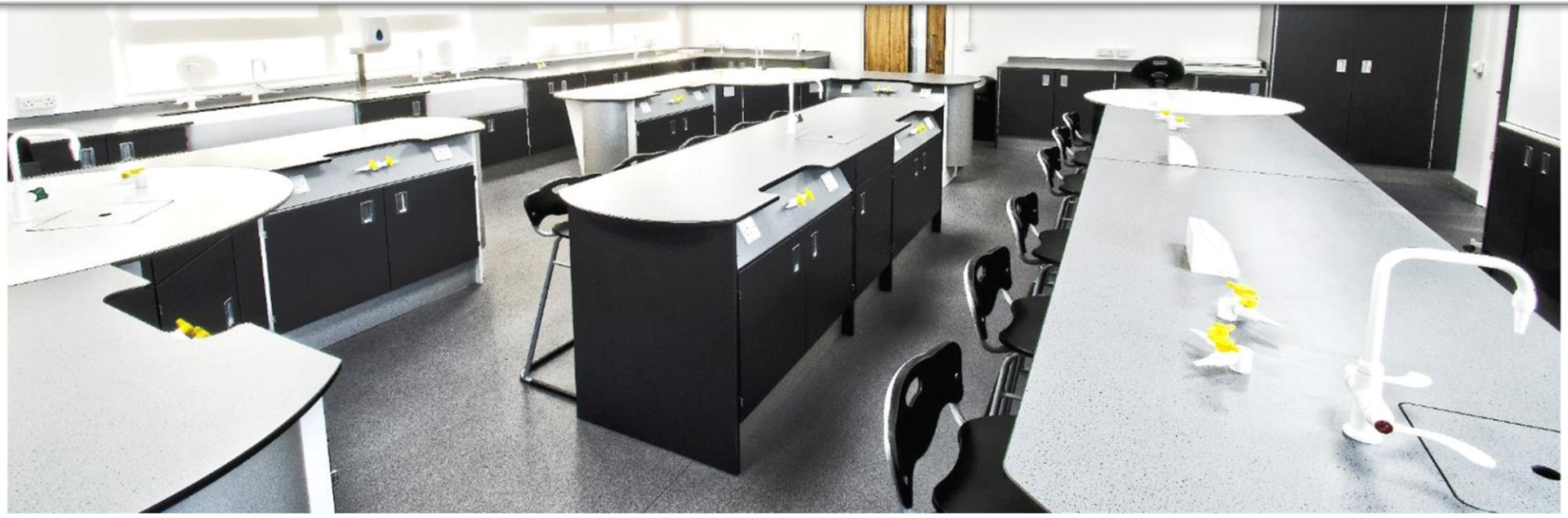
IN PICTURES…

(because 1 image is sometimes better than 100 words…)



TRESPA®

Think Trespa

Think Toplab