

A photograph of a laboratory with multiple workstations. Each workstation has a white countertop, a black sink, and a white faucet with green handles. The workstations are supported by black metal frames. The background shows a white wall with a large white cabinet and a white pipe.

Work Surfaces

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THE HARDEST WORKING PART OF ANY LABORATORY

Work Surfaces have to withstand the on going punishment of a modern laboratory. A high quality worktop is the basis for efficient and economic working procedures.

ECL TECHNICAL SURFACES

WORK SURFACES

Work Surfaces have to withstand the ongoing punishment of a modern Laboratory.

A high quality worktop is the basis for efficient and economic working procedures. The material used needs to be chemical resistant, 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.

We provide you with a versatile selection of work surface materials to meet virtually any application. When selecting laboratory countertops to pair with your laboratory, there are several important considerations to keep in mind:

- Function: A) Chemical Resistance, B) severity of impact and abrasions in normal laboratory work, C) the use of any biological agents, caustic chemicals or food handling
- Aesthetics
- cost

The chart on the following page will allow you to look at the work surfaces on offer as well as highlighting the strengths of each surface, elements they may be vulnerable to. As part of our continuous mission to supply the best products with the most accurate information regarding the work surface application, we may update this information as changes in the evolving production techniques become available.



Laboratory Work Surfaces

	Phenolic solid core	Solid Surface	Epoxy Resin	Polypropylene	HDPE	Stainless Steel	Granite	HPL Formica	Solid Wood
Brand	Gentag Glabe® Wilsonart ChemSurf® FunderMAX®	Corian® LG HI-MACS®	ECL	Roehling polystone® PP	Roehling polystone® P300	Franke	Rusenburg grey	Formica	NA
Composition	Scientifically developed, resin impregnated decorative paper over a layer of phenolic resin impregnated kraft paper at high pressure and temperatures	Acrylic polymer and alumina trihydrate (ATH), a material derived from bauxite ore	Epoxy resin, quartz sand, catalysts, curing agents and pigments	Block copolymer polypropylene	High-density polyethylene	304 grade stainless steel	Hard minerals such as quartz, feldspar and mica	High pressure plastic laminate are laminated to selected board substrates.	Lumber
Advantages	Antibacterial Highly compressed surface structure High chemical resistance Moisture-resistant	Nonporous: Solid all the way through. Virtually seamless. Resistant to stains from common lab agents, including blood, plasma, Wright's stain and X-ray development. Resistant to mild, mildew and bacteria with proper cleaning.	High temperature resistance Superior corrosion resistance to acid and base solvents. absolute moisture-proof.	Good impact resistance Very high chemical resistance Moisture resistance – excellent for food and chemical applications Higher scratch resistance than HDPE	Good chemical resistance, Long service life, Almost no moisture absorption, Physiological safe, Excellent mechanical properties, permanently UV-resistant	Jointless High resistance to solvents High temperature resistance	highly scratch resistant and will not show wear from daily use. Granite is heat resistant	hard and resistant to wear, acid, boiling water, domestic stains and moderate temperature.	Perhaps the greatest advantage of solid wood is that the wood is the same all the way through, so repairs are relatively easy.
Damaging Substances	Concentrated hydrochloric acids Nitric acid Heated sulfuric acid	Some chemicals can stain, discolor or damage solid surface materials. These include high concentrations of acids, ketones like acetone, chlorinated solvents like chloroform, or strong solvent combinations like paint remover.	Hydrofluoric acid Concentrated warm mineral acids	Toluene, Hydrochloric acid, concentrated Nitric Acid, Formic Acid, Potassium dichromate, Ozone, Chloroform, Benzol	Naptha, Nitric acid (90%), Nitrobenzene, Phosphorous chlorides, Sulphur trioxide	Compounds containing chlorine and bromine Formic acid Sulfuric acid	alkaline or acids	Concentrated hydrochloric acid Nitric acid, Heated sulfuric acid. Open flame, molten metal, metallic sparks or intense, direct sunlight, nor should it be used as cutting surfaces. Joints sensitive to moisture.	Exposure to most chemicals will mark the surface if not cleaned within a short amount of exposure time.
Max Temperature	160°	105°	800°	160 °C – 165 °C	135°	180°	135°	135°	135°
Ideal Use	Phenolic resin countertop is the perfect choice for a range of laboratories including teaching and research medical and pharmaceutical operations. From universities to high schools, from fundamental and applied science researching centers to wide range of industrial organizations, from disease control and preventive medical departments to quarantine centers; from biological products and pharmaceutical factories to industrial and hospital labs, clinics and operation rooms.	Solid surface products are non porous and have seamless joints making it ideal for use in healthcare, biological and biochemical laboratories where contamination would be an issue.	Laboratory workstation of all types	Ideal for areas that require high chemical and heat resistance. Working with hydrofluoric acid. Radio-isotope area. Areas in which the lack of joints is important.	Areas with high chemical resistance. Highly abrasive areas such as mining labs.	For maximum leads in the area of decontamination and moisture resistance as well as solvent resistance. Biology, Microbiology, Pharmacy, Radio-isotope area, Pathology	Recommended for balance tables, as it is not ideal for use with laboratories that use harsh acids which can attach the organic compounds of granite.	Mobile tables, add-on tables, instrument benches and laboratory benches in the dry area Cannot be used in moist or wet area	School Laboratories
Thickness	20mm	10mm fabricated to 32mm	20mm	4-20mm	25mm	custom	custom	30mm	custom

ECL TECHNICAL SURFACES

LABORATORY GRADE PHENOLIC RESIN WORK SURFACES

Laboratory Grade Phenolic 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. Laboratory Grade Phenolic 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. 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 laboratory grade phenolic ideal for use in labs utilized by different working groups, such as in educational institutions and industrial environments. These properties make laboratory grade phenolic countertops 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.

Laboratory Grade Phenolic Resin Antimicrobial Performance

Laboratory Grade Phenolic 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 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.

Cleanability of Phenolic Resin

In an environment where hygiene is a must, laboratory grade phenolic provides the best choice. Its work 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. Laboratory Grade Phenolic provides a surface impermeable to most bacteria, moulds or microorganisms. Resistant to dyes and organic, these phenolic tops are water resistant and easy to clean and disinfect.

Phenolic Resin Chemical Resistance

Used extensively in chemical, analytical, micro-biological and educational laboratories world-wide, phenolic resin is resistant to a large number of aggressive chemicals. Test results show the panel's 24 hour resistance. Aggressive chemicals will not mark a laboratory grade phenolic surface – if cleaned within this time period.

Phenolic Resin Durability

Laboratory Grade Phenolic is ideal for a multi-functional environment. Laboratory Grade Phenolic 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, laboratory grade phenolic delivers added strength to any laboratory or lecture room. The material's impact resistance makes it suitable for use in mobile furniture, i.e. science tables and laboratory carts.

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.

Laboratory Grade Phenolic 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, laboratory grade phenolic can be easily adapted to accommodate changes in working practice. It can be re-cut and retrofitted with new taps, sinks or other equipment, without losing its exceptional performance characteristics and its appearance.

Laboratory Grade Phenolic has a non-reflecting smooth surface. This makes it highly suitable as a multi-functional surface on which laboratory equipment, instrumentation, computers and general work, such as administration, analysis and research, can all be shared.

Laboratory Grade Phenolic 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.



Laboratory Grade Laminate on Phenolic Resin Solid Core

EC Laridon is the official agent for G-Lab® Laboratory grade phenolic resin tops. G-Lab® is made of Solid phenolic resin constructed with resin-impregnated material compressed under high heat and pressure and covered by a decorative melamine face on both sides. The result is an extremely durable, impact and water-resistant material.

Phenolic sheets are supplied with melamine surface that looks the same as a conventional laminate. The difference however is the G-Lab® laminate has been designed specifically with the harsh laboratory environment in mind. G-Lab® is produced with special surface technology which forms a special surface to ensure superior protection against a wide range of chemicals. The product is resistant against fire; it does not merge and form flame drops, blow up or emit toxic gases when exposed to fire. G-Lab® is resistant to acids, bases, salts and dyes. It has resistance against most aggressive chemicals and does not become damaged and stained if the chemical poured on it is cleaned within 24 hours. It eliminates the formation of bacteria and fungus thanks to its smooth and polished surface. The surface does not reflect the light.

It has become a favoured and widespread product for use in the fields of chemistry, radiology, biology, botanic, physic, electronic, nuclear, cosmetic, graphic, education and photograph laboratories, dentistry operation rooms, hospitals, surgery rooms, apothecary's shops, food industry, professional kitchens and freezer rooms thanks to these features.



According to the tests applied according to the international SEFA 8-1999 standards, G-Lab demonstrates resistance for the following chemicals.

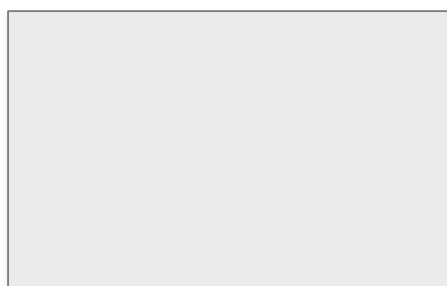
Test No	Chemical reagent	Test Method	Test Result
1	Hydrochloric acid 10%	B	0
2	Hydrochloric acid 37%	B	0
3	Sulphuric Acid 33%	B	0
4	Sulphuric Acid 98%	B	0
5	Nitric Acid 30%	B	0
6	Nitric Acid 65%	B	0
7	Phosphoric acid 85%	B	0
8	Acetic Acid 99%	B	0
9	Hydrofluoric Acid 40%	B	0
10	Chromic Acid 10%	B	0
11	Ammonium Hydroxide 28%	B	0
12	Sodium Hydroxide 46%	B	0
13	Silver Nitrate 1%	B	0
14	Potassium Permanganate 10%	B	0
15	Ferric III Chloride 120%	B	0
16	Copper Sulphate 10%	B	0
17	Sodium Hypochlorite 16%	B	0
18	Sodium Chloride 10%	B	0
19	Formaldehyde 10%	A	0
20	Furfural	A	0
21	Formic Acid 90%	B	0
22	Phenol 90%	A	0
23	Acetone	A	0
24	Mono Ethylene Glycol	A	0
25	Ethyl Alcohol	A	0
26	Ethylene Glycol Mono Butyl Esther	A	0
27	Dicloromethane	A	0
28	Methyl Ethyl Ketone	A	0
29	Ethylacetate	A	0
30	n-Butyl Acetate	A	0
31	n-Hexane	A	0
32	Methyl Alcohol	A	0
33	Methyle isobutol Ketone	A	0
34	TetraHydroFurane (THF)	A	0
35	Toluene	A	0
36	Tri Chloro Ethylene	A	0
37	Xylene	A	0
38	Iodine Tincture	B	0
39	Hydrogen Peroxide 3%	A	0
40	Malachite Green Oxalate	B	0
41	Methylene Blue 1%	B	0
42	Methyl Violet 2B 1%	B	0
43	Wright stain 1%	B	0

Level No.	Description
0	No detectable stain, loss of gloss or change to the surface of the laminate
1	Slight stain or loss of gloss but no change to the surface of the laminate
2	Severe Stain or slight change to the surface of the laminate
3	Swelling, pitting, cracking or erosion to the surface of the laminate

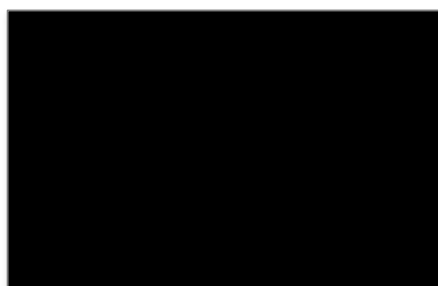
Test Methodology

Place 5 drops of the chemical reagent on the decorative surface of the tested laminate and cover with a 10cm watch glass for a period of 24 hours. After 24 hours wash the panel with water, clean with detergent and rinse with de-ionized water. Leave the test panel for a further 24 hours and evaluate according to chart

Colours Available



3153 LIGHT GREY



3190 BLACK

- 
WATER REPELLANT
- 
DRY HEAT RESISTANCE
- 
SCRATCH & ABRASION RESISTANCE
- 
LOW LIGHT REFLECTIVITY
- 
HEAT & COLD RESISTANCE
- 
EASY TO CLEAN
- 
ULTRA COLOR INTENSITY
- 
IMPACT RESISTANCE
- 
RESISTANCE TO LABORATORY CHEMICAL



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