

Max Resistance²

Highest quality for absolute durability

FunderMax excels when it comes to the decor of sophisticated buildings. When absolute cleanliness and durability are a must, Max Resistance² is your product of choice.



Composed of carefully selected and tested raw materials, Max Resistance² is suitable for even the most challenging applications. These homogeneous compact panels are pressed using enormous heat and high pressure, to create a unique product that is colour-fast and boasts greater chemical and mechanical resistance.

Seamless and fully enclosed, this unique material can resist constant exposure to moisture. Even highly concentrated acids and solvents as well as aggressive cleaning-agents and disinfectants do not alter the surface or colour - making Max Resistance² the ideal choice for industrial laboratories, research-centres, hospitals, the food industry and everywhere where ultimate durability is depended upon.

The advantages:

- ➔ excellent mechanical and physical properties
- ➔ acid and solvent resistant
- ➔ excellent chemical resistance
- ➔ abrasion resistant
- ➔ resistant to cold shock
- ➔ food safe and antibacterial
- ➔ usable on both sides

Applications:

Furniture, tables, lecterns, claddings and worktops for the medical sector, industrial laboratories, photo labs, schools, universities, research centres, industrial kitchens

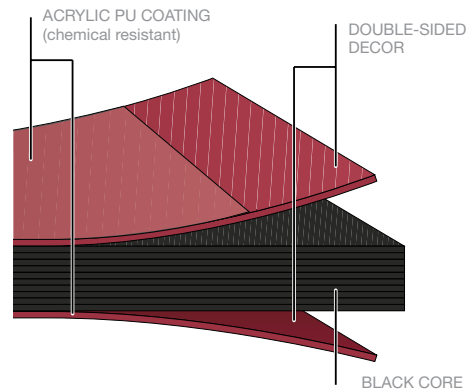


Max Resistance²

Max Resistance² is a duromer high pressure laminate (HPL), produced in laminate presses, under high pressure at high temperature, in accordance with EN 438-4, type CGS.

Due to its scientifically developed, double-cured polyurethane acrylic coating, Max Resistance² stands up to the toughest tests – unaffected by solvents, most acids and the harshest chemicals. Easy-to-clean and disinfect and at the same time wear and scratch resistant, this innovative material significantly extends the life cycle of your laboratory work surface.

MAX RESISTANCE² STRUCTURE



PERMANENTLY RESISTANT

Max Resistance² is extremely resistant to chemical and physical abuse – thanks to FunderMax's patented technology. Created from tested and certified raw materials, compressed at high temperatures under intense pressure, the end result is a homogenous, decorative and extremely resistant panel. And as it's completely uniform and joint free it's also permanently resistant to moisture.

FOR EXTREME DEMANDS

Ideal for all types of laboratories: research facilities, biochemistry laboratories, pharmaceutical laboratories, hospital laboratories, surgery suites, school laboratories, kitchens and the food industry. When absolute cleanliness and protection are called upon, Max Resistance² delivers on every level.

In contrast to other compact work surfaces, Max Resistance² is unaffected when it comes into contact with even the most concentrated or aggressive chemicals, such as Sulfuric, Hydrochloric, Hydrofluoric Acids or Hydrogen Peroxide. Meaning you can rely on total chemical resistance.

Maximum performance

Max Resistance² not only meets the standards set by SEFA 3, it surpasses them; the harshest chemicals applied to horizontal lab surfaces have no impact whatsoever. Even Hydrofluoric Acid and Sulfuric Acid don't damage the surface.



Substance	Rating	0 No effect	1 Excellent	2 Good	3 Fair
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ACIDS

Acetic Acid 99%	●				
Dichromate Acid 5% ²⁾	●				
Chromic Acid 60%	●				
Formic Acid 90% ²⁾	●				
Hydrochloric Acid 37%	●				
Hydrofluoric Acid 48%			●		
Nitric Acid 20%	●				
Nitric Acid 30%	●				
Nitric Acid 70% ²⁾				●	
Phosphoric Acid 85%	●				
Sulphuric Acid 33%	●				
Sulphuric Acid 77%	●				
Sulphuric Acid 96%			●		
Sulphuric Acid 77 % Nitric Acid 70% (1:1)				●	

BASES

Ammonium Hydroxide 28%	●				
Sodium Hydroxide 10%	●				
Sodium Hydroxide 20%	●				
Sodium Hydroxide 40%	●				
Sodium Hydroxide Flake	●				

SALTS AND HALOGENS

Saturated Zinc Chloride	●				
Saturated Silver Nitrate	●				
Tincture of Iodine ¹⁾			●		

TEST RESULTS MAY DIFFER BY COLOUR

¹⁾ RESULT ON 0082

²⁾ RESULT ON 0085

TEST PROCEDURE

The chemical resistance tests were performed in a SEFA certified laboratory according to the Test Method: SEFA 3-2010 Sec 2.1. (24hr EXPOSURE) Detailed information and results are available in the official test reports.

RESULTS

FunderMax Resistance² passed the SEFA 24h Exposure Test and is therefore suitable and recommended for laboratory worktops. FunderMax Resistance² exceeds the SEFA test criteria by far without one single Level 3 rating.

Substance	Rating	0 No effect	1 Excellent	2 Good	3 Fair
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ORGANIC CHEMICALS

Cresol	●				
Dimethylformamide	●				
Formaldehyde 37%	●				
Furfural ¹⁾			●		
Gasoline	●				
Hydrogen Peroxide 30% ²⁾	●				
Hydrogen Peroxide 3%	●				
Phenol 90%			●		
Sodium Sulfide Saturated	●				

SOLVENTS

Acetone ²⁾	●				
Amyl Acetate	●				
Benzene	●				
Butyl Alcohol	●				
Carbon Tetrachloride	●				
Chloroform ²⁾	●				
Dichlor Acetic Acid ²⁾			●		
Dioxane	●				
Diethyl Ether	●				
Ethyl Acetate ¹⁾	●				
Ethyl Alcohol	●				
Methylalcohol	●				
Methylene Chloride	●				
Methyl Ethyl Ketone	●				
Mono Chlorobenzene	●				
Napthelene	●				
Toluene	●				
Trichloroethylene	●				
Xylene ¹⁾	●				

RATING

0 – No Effect – No detectable change in the material surface.

1 – Excellent – Slight detectable change in color or gloss but no change in function or life of the surface.

2 – Good – A clearly discernible change in color or gloss but no significant impairment of surface life or function.

3 – Fair – Objectionable change in appearance due to discoloration or etch, possibly resulting in deterioration of function over an extended period of time.

ACCEPTANCE CRITERIA

To be approved as laboratory grade surfaces, tested materials should receive no more than 4 Level 3 ratings.

Outstanding mechanical and thermal properties

Properties tested according to EN 438-2	Standard requirement	Max Resistance ²
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PHYSICAL DATA

Density DIN 52350/ISO 1183	≥ 1.35 g/cm ³	≥ 1.35 g/cm ³
Thickness (e.g.) EN 438-2, point 5		10 mm
Weight		13.5 kg/m ²

MECHANICAL PROPERTIES

Resistance to stress abrasion EN 438-2, point 10 (Initial Point)	≥ 150 U	450 U*
Resistance to impact EN 438-2, point 21	≤ 10 mm	8 mm
Resistance to scratching EN 438-2, point 25	degree ≥ 3 ≥ 4 N	3 - 4 degree 4 - 6 N
Flexural strength EN ISO 178	≥ 80 MPa	≥ 80 MPa
E-Modulus EN ISO 178	≥ 9000 MPa	≥ 9000 MPa

*450 U for all Uni colours, 150 U for Punto decors

Properties tested according to EN 438-2	Standard requirement	Max Resistance ²
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THERMAL PROPERTIES

Dimensional stability measured at elevated temperatures with moisture change EN 438-2, point 17	≤ 0.30 length ≤ 0.60 width	0.15 length 0.3 width
Co-efficiency of thermal expansion DIN 52328	1/K	20 x 10 ⁻⁶
Resistance to dry heat EN 438-2, point 16	4-5 [degree]	4-5 [degree]
Resistance to staining EN 438-2, point 26 (group 1-3)	4-5 [degree]	5 no visible changes, no blisters or cracks
Surface resistance		10 ⁹ - 10 ¹² Ohm

OPTICAL PROPERTIES

Light fastness EN 438-2, point 27	≥ 4 [level]	4 or 5
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SURPASSES ALL TESTS

In addition to chemical resistance, mechanical strength is key when it comes to creating highly durable, long-lasting lab surfaces. This is where Max Resistance² comes into its own. Thanks to its innovative patented surface technology, Max Resistance² offers a 25% higher impact and scratch resistance, and a 3 times higher abrasion resistance, when compared to EBC or Melamine Surfaces. Max Resistance²'s dimensional stability is also well above the standard requirements.

10 YEAR WARRANTY

Because of its superior performance, Max Resistance² comes with a 10 year extended warranty.



Products for laboratories

In addition to Max Resistance², FunderMax offers a wide range of combinable high quality products, purposely designed for the diverse challenges of the laboratory market.

	Max Resistance ²	Compact Interior	Compact Interior White Core	Max Laminate	Star Favorit Superfront
Surface	RE	FH, MT ¹⁾	FH, MT ¹⁾	FH, MT, SG, SU, NA, AP ¹⁾	FH, HG, SG
Technology	RE-Technology	Melamine	Melamine	Melamine	Melamine
Size in mm / inch	OF = 3660x1630 XL = 4100x1854 (on request) OF = 144.09"x 64.17" XL = 161.42"x72.99" (on request)	XL = 4100x1854 JU = 4100x1300 GR = 2800x1300 XL = 161.42"x72.99" JU = 161.42"x51.18" GR = 110.24"x51.18"	XL = 4100x1854 JU = 4100x1300 XL = 161.42"x72.99" JU = 161.42"x51.18"	JU = 4100x1300 GR = 2800x1300 TK = 2140x1060 JU = 161.42"x51,18" GR = 110.24"x51,18" TK = 85.25"x41.73"	2820x2070 2800x1854 ^(HG) 2800x2050 ^(SG) 111.02"x81.50" 110.24"x72.99" ^(HG) 110.24"x80.71" ^(SG)
Thickness	4 mm-25 mm (OF) 1/6"-1" 2 mm-20 mm (XL) 1/6"-0.79"	2-20 mm (XL) 2-25 mm (JU, GR)	5-13 mm (FH) 8, 10, 12, 13 (MT)	0.8 mm, 1 mm, 2 mm	12.0-39.3 mm
Range of decors	12 Standard Decors; others available on request	> 240 Decors (FunderMax Interior Collection)	> 240 Decors (FunderMax Interior Collection)	> 240 Decors (FunderMax Interior Collection)	> 240 Decors (FunderMax Interior Collection)
Chemical resistance of the surface and core	excellent	medium	low	medium	medium
Core	Black, HPL	Black, HPL	White, Melamine (Decor 0085)	Brown, HPL	Woodchip
Impact resistance	very high	very high	high	high	high
Scratch and abrasion resistance	excellent	very high	good	very high	good

	Max Resistance ²	Compact Interior	Compact Interior White Core	Max Laminate	Star Favorit Superfront
General and wet chemistry	✓ ✓				
Bio-chemistry and medical sector	✓ ✓				
Petrochemical industry	✓ ✓				
Pharma, food and beverage industries	✓ ✓			✓	✓
Technical work stations	✓ ✓	✓	✓	✓	✓
Office work stations	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓
Application	Laboratory worktops and shelves, Splash-backs, work space dividers, fume-hood tops and lining, horizontal and vertical applications	Interior wall protection, cabinets and shelving in light- or non-chemical environments	Worktops, partitions, shelves and design elements in areas where chemicals aren't in use	Surface material for cabinets, doors and shelving in non-chemical laboratories	For cabinets and fronts enduring increased mechanical stress

✓ ✓ = IDEAL
✓ = SUITABLE

1) FEASIBLE SURFACES/FORMAT COMBINATION ACCORDING TO THE PRODUCT RANGE

NOTE: AS SURFACES RE, IP AND FH HAVE THE SAME SURFACE STRUCTURE/FINISH, THEY CAN BE COMBINED EFFECTIVELY. SLIGHT VARIATIONS IN COLOUR & APPEARANCE CAN OCCUR. MAX RESISTANCE² DECORS ARE AVAILABLE ACROSS THE RANGE (WITH 100% COMPATIBILITY).

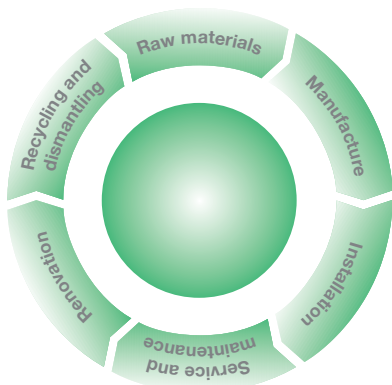


Sustainable product design

- FSC®* certified
- Green electricity and bio-energy
- Low emissions

ENVIRONMENTALLY FRIENDLY PRODUCTION

During the manufacture of Max Resistance², kraft paper is impregnated with resin, dried and compressed at high pressure – producing highly durable and moisture resistant panels. The waste from this process is treated (by regenerative thermal oxidation) and then re-used, achieving an entirely closed production cycle.



We are specialists in the processing of renewable raw materials - and have been for over 100 years. Our production cycles are closed, production waste is either recycled back into the production process or used to generate energy in our green energy district heating plants. This works so well, that every day we supply green electricity to the grid and provide district heating to over 3,000 households. Using biogenic energy

sources that have the least impact on the climate, FunderMax makes an active contribution to the reduction of greenhouse gas emissions and helps to save around 10,000 tonnes of CO₂ annually.

NATURAL MATERIALS

Max Resistance² panels are primarily made from 'by-product' wood, produced in saw mills and from logging, which is then processed into 'kraft paper'. FunderMax procures these raw materials from suppliers who hold FSC® or PEFC™ certification. These standards confirm that all logging is carried out in accordance with international rules for sustainable forestry.

INDOOR AIR QUALITY: CERTIFIED

Air quality has a direct impact on our health. Therefore, it's crucial that materials used for commercial buildings, schools, health facilities and residential buildings are tested to ensure they're safe. Most exposure to environmental pollutants occurs indoors: emissions from organic compounds, construction products and furnishings for example.

With Max Resistance², you can rest assured. It has GREENGUARD certification. An international standard, and assurance which puts products through their paces. Max Resistance excels, having met strict emissions test, making it perfectly safe to use indoors.



* PLEASE FIND FURTHER INFORMATION AT WWW.FUNDERMAX.AT

