

Color to the Core – Max Resistance²



A lightweight (under 7lb/sqf) material that combines the very best intrinsic qualities: extreme resistance to the most aggressive chemicals, long lasting durability, heat & scratch resistance and an easy to clean/disinfect surface. This trio of new products from FunderMax is certain to become the popular choice in both horizontal and vertical applications. New design possibilities are endless!

The color range includes white, pastel grey and charcoal (pictured left).

Designed to perfection

The color through range is designed to provide everything the discerning laboratory planner could require, with key emphasis on chemical and physical benefits, and is coupled with a style that is second to none.

Maximum Resistance!

Max Resistance² affords a 25% higher impact and scratch resistance and a 3 times higher abrasion resistance when compared to EBC or Melamine surfaces. Max Resistance² also provides excellent heat and flame resistant properties. Max Resistance² received zero level threes, when tested to the SEFA 3 chemical resistance standard. Max Resistance² is

people who

create

also antistatic with the surface resistance in the area between 10^9 and 10^{12} ohms.

Max Resistance² panels are extremely flat, with minimal thickness tolerances, which create perfectly even work surfaces with no edge variations in the joints. This makes a super easy and cost efficient install - while being stylish and environmentally friendly.

Need LEED credits - Max Resistance² can contribute. The material comes with an independent Environmental Product Declaration (EPD). Coupled with a 10-year warranty, Max Resistance² is perfect for every style of laboratory: K12 thru University; research facilities; biotech; vivarium; pharma; healthcare; industrial; and more.

When absolute cleanliness and chemical protection are essential, Max Resistance² delivers on every level.

MAX RESISTANCE² THE COLLECTION WITH COLOR THROUGH CORE

As a new feature some panels are available with a color through core. That means the core has the same color as the surface layer.

In large, design oriented projects, surfaces, colors and textures can be coordinated with Fundermax's extensive product range - ensuring a unique and contemporary design.







0077 Charcoal with color through core



0074 Pastel Grey with color through core

2181 Volcano Grey with color through core





MAX RESISTANCE² THE BEST IN ITS CLASS

Max Resistance² combines the very best intrinsic qualities: extreme resistance to the most aggressive chemicals, inherent strength, long lasting durability, and an easy-to-clean surface. What's more, it opens up new design possibilities.



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In this overview you will find available sizes for FunderMax Compact Interior panels together with the different product designs.

We reserve the right to make changes in line with product development. Please note the FunderMax current delivery programme.



Fig. 1

| | AVAILABLE FORMATS ACCORDING TO THE PRODUCTS*) | | | | | |
|--|---|----|----|----|----|----|
| | ТК | GR | JU | SP | OF | XL |
| Max Compact Interior | • | • | • | • | | • |
| Max Compact Interior Plus | | • | • | • | | • |
| Max Resistance ² (Laboratory panel) | | | | | • | |
| Max Compact with Individualdecor | ٠ | ٠ | ٠ | | | |
| Max Compact with white core | | | ٠ | | | ٠ |

Table 1

OUTSTANDING MECHANICAL AND THERMAL PROPERTIES

| Properties tested according to EN 438 | Standard requirement | Max Resistance ² |
|---|-------------------------------|---|
| Physical data | | |
| Density DIN 52350/ISO 1183 | ≥ 1.35 g/cm³ (=4.9 lb/inch³) | ≥ 1.35 g/cm³(=4.9 lb/inch³) |
| Thickness (e.g.) EN 438-2, point 5 | | 10 mm (=0.39") |
| Weight | | 13.5 kg/m²(=2.77 lb/sqf) |
| 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 (=0.39") | 8 mm (=0.32") |
| 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 |
| 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/К | 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 |
| | | |
| Optical properties | | |
| Light fastness EN 438-2, point 27 | ≥ 4 [level] | 4 or 5 |
| Surface resistance | | 10 ⁹ – 10 ¹² Ohm |

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

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.

10 YEAR WARRANTY

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

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 test reports.

Results

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

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.

tion 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 four Level 3 ratings.

| | Rating | 0 | 1 | | 3 |
|---|--------|-----------|-----------|------|------|
| Substance | | No effect | Excellent | Good | Fair |
| | | | | | |
| Acids | | | | | |
| Acetic Acid 99% | | • | | | |
| Dichromate Acid 5% 2) | | • | | | |
| Chromic Acid 60% | | • | | | |
| Formic Acid 90% ²⁾ | | • | | | |
| Hydrochloric Acid 37% | | • | | | |
| Hydrofluoric Acid 48% | | | ٠ | | |
| Nitric Acid 20% | | • | | | |
| Nitric Acid 30% | | • | | | |
| Nitric Acid 70% ²⁾ | | | | • | |
| Phosphoric Acid 85% | | ٠ | | | |
| Sulfuric Acid 33% | | • | | | |
| Sulfuric Acid 77% | | • | | | |
| Sulfuric Acid 96% | | | • | | |
| Sulfuric Acid 77 % Nitric Acid 70% (1:1) | | | | ٠ | |
| Bases | | | | | |

| • | | |
|---|---|--|
| • | | |
| • | | |
| • | | |
| • | | |
| | • | |

Salts and Halogens

| Saturated Zinc Chloride | • | | |
|--------------------------|---|---|--|
| Saturated Silver Nitrate | • | | |
| Tincture of Iodine 1) | | • | |

Test results may differ by color ¹⁾ Result on 0082 ²⁾ Result on 0085



| | Rating | 0 | 1 | | 3 |
|----------------------------------|-----------------|-----------|-----------|------|------|
| Substance | | No effect | Excellent | Good | Fair |
| | | | | | |
| Organic Chemicais | | - | _ | _ | _ |
| Cresol | | • | | | |
| Dimethylformamide | | • | | | |
| Formaldehyde 37% | | • | | | |
| Furfural ¹⁾ | | | • | | |
| Gasoline | | • | | | |
| Hydrogen Peroxide 30% | Z ²⁾ | • | | | |
| Hydrogen Peroxide 3% | | • | | | |
| Phenol 90% | | | • | | |
| Sodium Sulfide Saturat | ed | • | | | |
| Solvents | | | | | |
| Acetone 2) | | • | | | |
| Amyl Acetate | | • | | | |
| Benzene | | • | | | |
| Butyl Alcohol | | • | | | |
| Carbon Tetrachloride | | • | | | |
| Chloroform 2) | | ٠ | | | |
| Dichloracetic Acid ²⁾ | | | ٠ | | |
| Dioxane | | ٠ | | | |
| Diethyl Ether | | • | | | |
| Ethyl Acetate 1) | | ٠ | | | |
| Ethyl Alcohol | | • | | | |
| Methyl Alcohol | | ٠ | | | |
| Methylene Chloride | | • | | | |
| Methyl Ethyl Ketone | | ٠ | | | |
| Monochlorobenzene | | • | | | |
| Napthalene | | • | | | |
| Toluene | | • | | | |
| Trichloroethylene | | • | | | |
| Xylene 1) | | • | | | |
| | | | | | |

PRODUCTS FOR LABORATORIES SUMMARY

In addition to Max Resistance², Fundermax offers a wide range of compatible high quality products, purposely designed for the diverse challenges of the laboratory and related healthcare industries.

| | Max Resistance ² | Compact Interior Plus | Compact Interior |
|---|--|--|--|
| Surface | RE | IP | FH, MT ¹⁾ |
| Technology | RE-Technology | IP-Technology | Melamine |
| Size in mm / inch | OF = 3660 x 1630/144.09" x 64.17" XL = 4100 x 1854/161.42" x 72.99" | XL = 4100 x 1854/161.42" x 72.99" JU = 4100 x 1300/161.42" x 51.18" GR = 2800 x 1300/110.24" x 51.18" TK = 2140 x 1060/84.25" x 41.73" SP = 2800 x 1854/110.24" x 72.99" | XL = 4100 x 1854/161.42" x 72.99" JU = 4100 x 1300/161.42" x 51.18" GR = 2800 x 1300/110.24" x 51.18" TK = 2140 x 1060/84.25" x 41.73" SP = 2800 x 1854/110.24" x 72.99" |
| Thickness | 4 mm-25 mm (OF)/1/6"-1" 4 mm-20 mm (XL)/1/6"-3/4" | 2-20 mm (XL, JU, GR) 2-15 mm (SP) | 2-20 mm (XL, TK) 2-25 mm (JU, GR) 2-15 mm (SP) |
| Range of decors | 15 Standard Decors; others available on request | > 120 Decors (Max Exterior Collection) | > 150 Decors (Fundermax Interior Collection) |
| Individualdecor | | | \checkmark |
| Chemical resistance of the surface | excellent | high | medium |
| Core | Black, color through* | Black, color through* | Black, color through* |
| Impact resistance | very high | very high | very high |
| Scratch and abrasion resistance | excellent | very high | very high |
| General and wet chemistry | $\checkmark\checkmark$ | \checkmark | |
| Bio-chemistry and medical sector | $\checkmark\checkmark$ | \checkmark | |
| Petrochemical industry | $\checkmark\checkmark$ | \checkmark | |
| Pharma, food and beverage industries | $\checkmark\checkmark$ | \checkmark | |
| Technical work stations | $\checkmark\checkmark$ | $\checkmark\checkmark$ | \checkmark |
| Office work stations | $\checkmark\checkmark$ | $\checkmark\checkmark$ | $\checkmark\checkmark$ |
| Application | Laboratory worktops and shelves, splash-backs, work space dividers, fume-hood tops and lining, wide range of horizontal and vertical applications. | For demanding applications in hea- vily frequented areas with higher cleaning or hygiene requirements. | Interior wall protection, cabinets and shelving in light or non-chemi- cal environments. |

 $\checkmark \checkmark$ = Ideal \checkmark = Suitable *limited decor palette 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 perfectly. Slight variations in color & appearance can occur. Max Resistance² decors are available across the range (with 100% compatibility).



MAX RESISTANCE² PATENTED SURFACE TECHNOLOGY

Exclusive 'RE technology', developed in-house by Fundermax research scientists, is used in the production of Max Resistance² – perfecting the finish and making it ultimately resistant on both sides. In contrast to surfaces manufactured by means of Electron Beam Curing (EBC) or Melamine technology, the Max Resistance² work surface offers a significantly higher resistance to scratching, impact and abrasion, as well as aggressive acids. Max Resistance² sets a new standard and considerably increases the life cycle of your laboratory work surface.

FUNDERMAX RE-TECHNOLOGY



EBC-TECHNOLOGY



MELAMINE-TECHNOLOGY



_ HPL core

RE-SURFACE



No small pores visible

EBC-SURFACE



Micropores visible

MELAMINE SURFACE



Pores visible



ANTI-BACTERIAL

Because of its non-porous finish, Max Resistance² can be easily disinfected and doesn't support the growth of bacteria.

As a result you can confidently disinfect, knowing that you will kill > 99.99% of germs. Following a deliberate contamination with the aggressive Staphylococcus Aureus and Escherichia Coli bacterias, and subsequent disinfection¹⁾,

it was proven that Max Resistance² was as effective as stainless steel when it comes to disinfection.

These rigorous tests demonstrate the superior performance of Max Resistance² and highlight its suitability for medical, bio-chemical, food and pharmaceutical sectors/laboratories.

In a further test²⁾, it was demonstrated that the surface of Max Resistance² is free of micropores. The comparisson to other available surfaces shows that this is a truly unique feature.

1) The following disinfectants were used (in vol. %): Ethanol 70%, Formalin 5%, P-Chloro-M-Cresol 0.3%, Chloramine T 1%, Chloramine T 5%, Alkyl Benzyl Dimethyl Ammonium Chloride 0.1%

2) Porosity check: application of chalk, Subsequent cleaning and surface examination with microscope



SUSTAINABLE PRODUCT DESIGN

ENVIRONMENTALLY FRIENDLY PRODUCTION

During the manufacture of Fundermax Compact panels, 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.

NATURAL MATERIALS

Fundermax 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.



* Please find further information at www.fundermax.at















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