

Technical Leaflet

Resistance of EGGER surfaces to disinfectant

Tested EGGER products

The products listed have been tested in accordance with the test standards EN 438-2 (Decorative high pressure laminate panels HPL - Panels based on curable resins (laminates)) and EN 14323 (Wood-based panels - Melamine faced boards for indoor use) for resistance to disinfectants:

- EGGER Eurodekor TFL
- EGGER Compact laminate
- EGGER Laminate
- EGGER PerfectSense lacquered board

EGGER products Eurodekor TFL, Compact laminate and Laminate are characterized by their consistent melamine-resin surface. PerfectSense, on the other hand, is characterized by its lacquer-based surface.

Normative properties of the surface

EN 438-3 and EN 14322 set out special requirements regarding the resistance of the surface of EGGER products. The criteria for the resistance of surfaces to various substances is the test for stain resistance. Substances that are widely used in everyday life are investigated into how they affect the surface of EGGER Eurodekor TFL, Compact laminate, Laminate and PerfectSense lacquered board. For the purpose of these tests, these substances are brought into direct contact with the surface. The exposure times and conditions for the contact of each substance with the test specimen are examined. At the end of the respective contact period, the test specimens are washed and checked for permanent surface changes.

Please refer to the respective technical data sheets of the EGGER products for the specification of the rating level to be achieved.

Rating scale for testing stain resistance according to EN 438-2 and EN 14323

| Rating level | Requirement |
|--------------|--|
| Rating 5 | No visible change. |
| Rating 4 | Slight change in gloss level and/or color, only visible when the light source is mirrored on the test surface. |
| Rating 3 | Moderate change in gloss level and/or color, only visible in several viewing directions. |
| Rating 2 | Significant change in gloss level and/or color. |
| Rating 1 | Surface damage and/or blistering. |

Laboratory test



Coding: TLRDenUS
 Revision: 01
 Approved: 21-APR-2021

After defining the most common active substance bases of disinfectants, these were tested according to the specifications of EN 438-2 test method 26 – stain resistance at ambient temperature – with a contact time of 24 hours. The test objects are the EGGER products previously mentioned on page 1.

The following active substance bases have been tested in this context – see table below for the results:

| Tested active substance bases | Corresponds to active substance bases according to VAH* | Eurodekor TFL, Laminate, Compact laminate | PerfectSense lacquered board |
|--|---|---|------------------------------|
| Alkyl(C12-16) dimethylbenzyl ammonium chlorid 100% | Quaternary compound(s) | Rating 5 – no change | Rating 5 – no change |
| 2-Phenoxyethanol 100% | Quaternary compound(s) | Rating 5 – no change | Rating 5 – no change |
| Ethanol 50% | Alcohol(s) | Rating 5 – no change | Rating 5 – no change |
| Isopropanol 99% | Alcohol(s) | Rating 5 – no change | Rating 5 – no change |
| Hydrogen peroxide 5% | Peroxide compound(s) | Rating 5 – no change | Rating 5 – no change |
| Formaldehyde 5% | Aldehyde(s) | Rating 5 – no change | Rating 5 – no change |
| Glyoxal 5% | Aldehyde(s) | Rating 5 – no change | Rating 5 – no change |
| Formic acid 5% | Acid(s) | Rating 4 – slight change | Rating 5 – no change |
| Citric acid 5% | Acid(s) | Rating 5 – no change | Rating 5 – no change |
| Sodium Hypochlorite 2.8% | Chlorine splitting compound(s) | Rating 5 – no change | Rating 5 – no change |

References

Especially for the US market we refer to the disinfectant recommendation of the EPA. A list of these disinfectants can be found under the following link: <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>

*The Association for Applied Hygiene (VAH) provides an overview of common disinfectants and their active substance bases. The disinfectant list of the VAH contains all products listed by the VAH and can be accessed via the following link: <https://vah-liste.mhp-verlag.de/en/>

The Robert Koch Institute has also tested surface disinfectants and published a list of accepted disinfectants: <https://www.rki.de/DE/Content/Infekt/Krankenhaushygiene/Desinfektionsmittel>

Procedure

Based on the active substance bases tested by EGGER, it can be determined whether a specific disinfectant is suitable for use on EGGER surfaces or not. The ingredients of a disinfectant are listed on the label. Otherwise the information can be found in the technical data sheet or safety data sheet of the manufacturer. If the disinfectant contains one of the active substance bases tested on the EGGER products, it can be used for surface disinfection. The respective change of the disinfectant in combination with the specific EGGER product is displayed in the table above.

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Guidance on disinfectants

- The manufacturer's instructions for the dosage and application of the disinfectant must be strictly adhered to.
- To ensure that the surface is not affected, special attention must be paid to the concentration, exposure time and application temperature of the chemicals used.
- Observe the specified protective measures and rules of conduct.
- Dispose of disinfectant-soaked wipes immediately after use.
- The use of disinfectants is only carried out in connection with EGGER melamine-resin surfaces and lacquer-based surfaces as surface disinfectants.
- Excessively long dwell times of high moisture can damage the entire area from the panel surface to the edge. This may result in swelling of the EGGER product.
- The use of disinfectants with other detergents or chemicals have not been tested by EGGER.
- During the period of use, EGGER product surfaces must be cleaned regularly. Please refer to our technical data sheet "Cleaning and use recommendations".

The large number of available disinfectants with various ingredients, effects and application recommendations, makes it impossible to issue general approval for the use of disinfectants on EGGER surfaces. For the above reasons and in order to exclude interactions of the main active substances in combination with other ingredients of disinfectants, we recommend testing the disinfectant in advance on a non-visible area of the EGGER surface. Only this approach guarantees the processor the permanence of the material in the desired application.

Appendix

In the appendix you will find examples of disinfectants reviewed by EGGER, which are recommended for surface disinfection in compliance with the specified concentration and application time.

| Active Ingredient | Manufacturer | Product | Formulation Type |
|---|--------------------------------------|--|------------------|
| Alkyl dimethyl benzyl ammonium chloride | 3M Company | TB Quat Disinfectant Cleaner | Ready-to-use |
| Alkyl dimethyl benzyl ammonium chloride | KIK International LLC | HDX All-Purpose Cleaner | Ready-to-use |
| Citric Acid | Clorox Professional Products Company | Crush | Ready-to-use |
| Citric Acid | Wexford Labs Inc. | CleanCide Wipes | Wipe |
| Citric Acid | CR Brands Inc. | Arm & Hammer Essentials Disinfecting Wipes | Wipe |
| Citric Acid | Clorox Professional Products Company | CAT | Wipe |

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| Active Ingredient | Manufacturer | Product | Formulation Type |
|--|---|--|------------------|
| L-Lactic acid | S.C. Johnson & Son Inc. | Windex Disinfectant Cleaner | Ready-to-use |
| Hydrogen Peroxide | Ecolab Inc. | Peroxide Multi Surface Cleaner and Disinfectant | Ready-to-use |
| Hydrogen Peroxide | Clorox Professional Products Company | Clorox Commercial Solutions Hydrogen Peroxide Cleaner Disinfectant Wipes | Wipe |
| Hydrogen Peroxide | Clorox Professional Products Company | Clorox Commercial Solutions Hydrogen Peroxide Cleaner Disinfectant | Ready-to-use |
| Hydrogen Peroxide | Bonakemi USA Inc. | Bona STL Disinfecting Cleaner | Ready-to-use |
| Hydrogen Peroxide | Diversey Inc. | Oxy-Team Disinfectant Cleaner | Ready-to-use |
| Quaternary ammonium; Ethanol (Ethyl alcohol) | Microban Products Company | Ironman Wipe | Wipe |
| Quaternary ammonium; Ethanol (Ethyl alcohol) | Mason Chemical Company | Maquat 750-M | Ready-to-use |
| Quaternary ammonium | Reckitt Benckiser LLC | Lysol® Brand All Purpose Cleaner | Ready-to-use |
| Quaternary ammonium | Palmero Healthcare LLC | Discide Ultra Disinfecting Towelettes | Wipe |
| Quaternary ammonium | Palmero Healthcare LLC | Discide Ultra Disinfecting Spray | Ready-to-use |
| Quaternary ammonium | Professional Disposables International Inc. | Super Sani-Cloth Germicidal Disposable Wipe | Wipe |

Provisional note:

This technical data sheet has been carefully drawn up to the best of our knowledge. It is intended for information only and does not constitute a guarantee in terms of product properties or its suitability for specific applications. It is based on practical experiences, our own tests and corresponds to our present state of knowledge. We accept no liability for any mistakes, errors in standards, or printing errors. In addition, technical modifications may result from the continuous development of EGGER products, as well as from changes to standards and public law documents. Therefore, the content of these processing instructions cannot serve as instructions for use nor as a legally binding basis.

