

# PRODUCT DATA SHEET

## EGGER LAMINATE FLAMMEX



EGGER Laminate Flammex is a flame retardant, decorative laminate based on curable resins. The laminate is constructed by fusing multiple layers and consists of melamine resin impregnated decor paper and several phenolic resin impregnated core layers. Due to the use of special materials, EGGER Laminate Flammex meets the specific requirements of building materials class B1 in accordance with DIN 4102-1: 1998-05 and the French fire behaviour class M1 in accordance with NF P 92-501. **Depending on application and requirements, the decorative side can be enhanced with a special overlay to increase surface abrasion resistance.**

## Uses/Areas of application

EGGER Laminate Flammex is used for doors, partition walls and where ever fire retardant laminated composite boards are required.

## Storage/Fabrication

### STORAGE

We recommend storage in enclosed, dry areas in the original packaging, lying flat on a pallet (approximately 20°C and 55 to 65% relative humidity). Once the original packaging has been opened, any remaining unused laminate sheets should be completely covered with a board.

### FABRICATION

EGGER Laminate Flammex is usually bonded onto flame retardant chipboard substrates. Special glue systems such as resorcinol resin glues must be used in the lamination process. To ensure successful fabrication and bonding, we recommend conditioning of the laminates as well as the substrates in normal, temperate environments. **Please observe the information provided by the machinery-, wood based panel product- and adhesive suppliers to fulfil the special quality requirements in terms of flame retardancy.** The flexibility of EGGER Laminate Flammex is considerably limited due to the special materials used in production.

For further detailed information please refer to the leaflet "Processing instructions EGGER Laminate".

## Stock programmes

Decors from the ZOOM® and INDUSTRY collections are produced to order, subject to a minimum order quantity of 260 m2 per decor.

## Fire behaviour

EGGER Laminate Flammex meets the specific requirements of building materials class B1 in accordance with DIN 4102-1: 1998-05 as well as the French fire behaviour class M1 in accordance with NF P 92-501. EGGER Laminate Flammex is a building material usually used for the lamination of laminated composite boards. In the event of fire, laminated composite boards based on:

Substrate: EUROSPAN® Flammex

Glue system: flame retardant resorcinol resin glue

Lamination: EGGER Laminate Flammex

meet the specific requirements of DIN EN 13501-1. In accordance with DIN EN 13501-1:2007-05 the reaction to fire classification of these laminated composite boards is: **B**

The additional classification in relation to smoke production is: **s2**

The additional classification in relation to flaming droplets is: **d0**

The fire behaviour classification format of the building product is:

| Fire behaviour | Smoke production |   | Flaming droplets |   |
|----------------|------------------|---|------------------|---|
| B              | s                | 2 | d                | 0 |

viz. **B – s2, d0**

## Quality characteristics/Technical data

The laminate properties according to EN 438:2005 are determined by the application. According to EN 438:2005, EGGER Laminate Flammex can be classified as Type **F** (Flame-retardant) laminate. In terms of performance characteristics, laminate type **F** can be differentiated as follows:

- Medium resistance    **VG**F – Vertical General-purpose Flame-Retardant
- High resistance        **HG**F – Horizontal General-purpose Flame-Retardant
- Very high resistance   **HD**F – Horizontal Heavy-Duty Flame-Retardant

The VGP, HGP and HDP categories specify the minimum laminate quality characteristics requirements (application classes) and state that the laminate can be used for horizontal and/or vertical applications. The following table shows the standard requirements needed for wear, scratch and impact resistance.

| Property                                | Classification in accordance with EN 438-3:2005  |  |  |
|---|--|--|--|
|   | Medium resistance<br>Index number 2 - VGF  | High resistance<br>Index number 3 - HGF  | Very high resistance<br>Index number 4 - HDF   |
| <b>Abrasion resistance</b>              |  |  |  |
| Initial point [Revolutions]             | ≥ 50   | ≥ 150  | ≥ 350  |
| Abrasion value [Revolutions]            | ≥ 150  | ≥ 350  | ≥ 1000   |
| <b>Impact resistance</b>                |  |  |  |
| Impact small ball [Newtons]             | ≥ 15   | ≥ 20   | ≥ 25   |
| <b>Resistance to Scratches</b>          |  |  |  |
| Scratch resistance [Degrees]            | 2  | 3  | 4  |
| <b>Examples of typical applications</b> | Kitchen fronts, office and bathroom furniture, wall and ceiling panels, shelves and furniture elements | Kitchen work surfaces, restaurant and hotel tables, doors and wall panels with high resistance | Counter tops, flooring with special substrates |

## RESISTANCE TO SURFACE WEAR

| Quality properties abrasion                        | Result                         |   | Index | Standard      |
|--|--------------------------------|---|-------|---------------|
|  | Initial point IP [Revolutions] | Wear resistance [IP+FP]/2 [Revolutions] |       |               |
| No overlay (Printed Fantasy and Wood grain decors) | < 50                           | ≥ 50                                    | -     | EN 438-2:2005 |
| No overlay (Solid colours and white)               | ≥ 150                          | ≥ 350                                   | 3     | EN 438-2:2005 |
| K- and O-Overlay                                   | ≥ 150                          | ≥ 350                                   | 3     | EN 438-2:2005 |
| X-Overlay  | ≥ 1,800                        | -                                       | AC2   | EN 438-5:2005 |
| V-Overlay  | ≥ 4,000                        | -                                       | AC4   | EN 438-5:2005 |

## RESISTANCE TO IMPACT BY SMALL DIAMETER BALL

| Laminate thickness [mm] | Unit   | Result | Index | Standard      |
|-------------------------|--------|--------|-------|---------------|
| 0.60 und 0.80           | Newton | ≥ 20   | 3     | EN 438-2:2005 |

## RESISTANCE TO SCRATCHING

Essentially, scratch resistance is determined by the surface texture, as generally speaking wear and scratch marks are not as visible on textured surfaces as they are on smooth surfaces. The choice of decor is also important, as light colours are less susceptible than dark ones and printed decors are usually better than plain colours.

In conclusion, the selection of certain structure, surface colour and decor combinations can influence the scratch resistance. Bearing in mind the choice of EGGER decors and structures available, the scratch resistance fluctuates between the **ratings** of 3 and 4.

EN 438:2005 measures scratch resistance in degrees. The degree at which the laminate displays evidence of wear and scratch marks is influenced by its surface properties and colour. For a better understanding, please refer to the EN 438:2005 rating scale below.

| Scratch resistance rating scale | Discontinuous scratches, or faint superficial marks, or no visible marks | ≥ 90 % continuous double circle of scratch marks clearly visible. |
|---------------------------------|--|---|
| Rating 5                        | 6 Newton   | > 6 Newton  |
| Rating 4                        | 4 Newton   | 6 Newton  |
| Rating 3                        | 2 Newton   | 4 Newton  |
| Rating 2                        | 1 Newton   | 2 Newton  |
| Rating 1                        | -  | 1 Newton  |

## Additional quality features

| Quality feature                          | Unit       | Result | Standard      |
|--|------------|--------|---------------|
| Resistance to dry heat* <sup>1</sup>     | Rating     | 4      | EN 438-2:2005 |
| Resistance to water vapour* <sup>1</sup> | Rating     | 4      | EN 438-2:2005 |
| Resistance to staining group 1 and 2     | Rating     | 5      | EN 438-2:2005 |
| Resistance to staining group 3           | Rating     | 4      | EN 438-2:2005 |
| Lightfastness (Xenon arc lamp)           | Grey scale | 4 - 5  | EN 438-2:2005 |
| Resistance to cigarette burns            | Rating     | 3      | EN 438-2:2005 |

\*<sup>1</sup> Values may be lower for full pearlescent print decors. These are therefore unsuitable for horizontal applications.

## Dimensions/Tolerances/Available Formats

| Nominal laminate thickness<br>[mm] | Available Formats |            | Thickness tolerance<br>[mm] | Length tolerance* <sup>2</sup><br>[mm] | Width tolerance<br>[mm] |
|------------------------------------|-------------------|------------|-----------------------------|--|-------------------------|
|                                    | Roll              | Sheet size |                             |  |                         |
| 0.60                               | ▪                 | ▪          | ± 0.10                      | +10/-0                                 | +10/-0                  |
| 0.80                               |                   | ▪          | ± 0.10                      | +10/-0                                 | +10/-0                  |

\*<sup>2</sup> length tolerance only applies to laminate supplied in sheets, not for rolls.

### ROLL FORMAT

Maximum length: 400 m  
 Maximum width: 1,300 mm  
 Width cross cuts: max. 3 cross cuts; minimum laminate width 200 mm; Please note: 5 mm waste per cross cut.  
 Core diameter: 150 mm

### SHEET SIZE FORMAT

Minimum length: 800 mm  
 Maximum length: 5,600 mm  
 Maximum width: 1,300 mm

Width cross cuts: max. 3 cross cuts; minimum laminate width 200 mm; Please note: 5 mm waste per cross cut.

## Care and cleaning recommendation

Due to the resistant and hygienic, dense surface, EGGER Laminate Flammex does not require any special form of care. The surfaces are generally easy to clean. This also applies to textured surfaces.

More detailed information can be found in our leaflet "EGGER laminate cleaning and maintenance instructions".