

# Energy labeling certificate for windows

Reg.no. 505-7



| Company                                                                                   |
|-------------------------------------------------------------------------------------------|
| <b>UnikFunkis Vinduer &amp; Døre A/S</b><br>Livøvej 10, 8800 Viborg<br>CVR nr.: 1012 3135 |

| Product system                                         |
|--------------------------------------------------------|
| <b>UnikFunkis Aluclad - Triple glazing - optimized</b> |
| Product group                                          |
| <b>Aluclad</b>                                         |

| Energy class for the product system |              |       |
|-------------------------------------|--------------|-------|
|                                     | Energy class | Label |
| $0 \leq E_{ref}$                    |              |       |
| $-17 \leq E_{ref} < 0$              |              |       |
| $-33 \leq E_{ref} < -17$            |              |       |
| $-55 \leq E_{ref} < -33$ *          |              |       |
| $-60 \leq E_{ref} < -55$ *          |              |       |
| $E_{ref} < -60$ *                   |              |       |

The calculation of the energy grant is for one Reference house with Danish climate data in accordance with the formula contained in BR 18 (§258). Energy labeling and the calculated energy grant is therefore only valid in Denmark. Product system Eref – values rounded to integer within Classification.

\*Windows energy class C or worse is generally only permitted for use in construction, which are not covered by BR 18.

| Energy data for the product system                                                                                     |                          |
|------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <b>Reference Window – definition:</b><br>1-leaf window with opening frame in the European standard size 1.23 x 1.48 m. |                          |
|                                                                                                                        |                          |
| $E_{ref} = 196,40 \cdot g_w - 90,36 \cdot U_w$                                                                         | +17,0 kWh/m <sup>2</sup> |
| $U_w$ : U-value (Window)                                                                                               | 0,82 W/m <sup>2</sup> ·K |
| $g_w$ : Solar transmittance (Window)                                                                                   | 0,46                     |
| $F_f$ : Glass share (Ag / Aw)                                                                                          | 0,76                     |

| Standard glass for product system                                                                       |                          |
|---------------------------------------------------------------------------------------------------------|--------------------------|
| <b>Standard glass – definition:</b> The glass pane, which is used as the production system's main pane. |                          |
| Triple glazing: 4-18-4-18-4                                                                             |                          |
| $U_g$ : Center U-value (glass)                                                                          | 0,56 W/m <sup>2</sup> ·K |
| $g_g$ : Solar transmittance (glass)                                                                     | 0,61                     |
| $LT_g$ : Light Transmittance (glass)                                                                    | 0,75                     |
| $\lambda_{eq}$ : Eg. Thermal conductivity (spacer)                                                      | 0,40/0,13 W/m·K          |

| Standards bar                             |                    |             |
|-------------------------------------------|--------------------|-------------|
| Category                                  | Linear loss        | Label       |
| Low energy bar                            | $\leq 0,010$ W/m·K |             |
| Energy bar                                | $> 0,010$ W/m·K    |             |
| Width of standard bar                     |                    | 28 mm       |
| Psi-value = linear loss at bar (per page) |                    | 0,006 W/m·K |

For windows with many bars it is important to choose a Bar with good energy specifications. (i.e., thin glazing bars With a small linear loss).

Bars that go through the glass should not be used in a Energy labeled product system, but are allowed if they are Necessary for the load capacity or as required separation Between two types of glass panes typically larger window Frames with large panes.

|                                                                                                         |     |    |
|---------------------------------------------------------------------------------------------------------|-----|----|
| Is the window system subject to control under the current version of the Technical Requirements for DVV | Yes | No |
|                                                                                                         |     |    |

**It is hereby certified that:**

- The company can calculate the products timely energy data.
- The company's documentation is checked annually by an Independent body.
- Energy data is documented with test reports from a notified recognized body.
- Mullions is performed according to the frame and sash in the product system.

**This certificate is valid until 24. June 2021**

24.06.2019  
Date For Energimærkningsordningen

For more informations: [www.energivinduer.dk](http://www.energivinduer.dk)