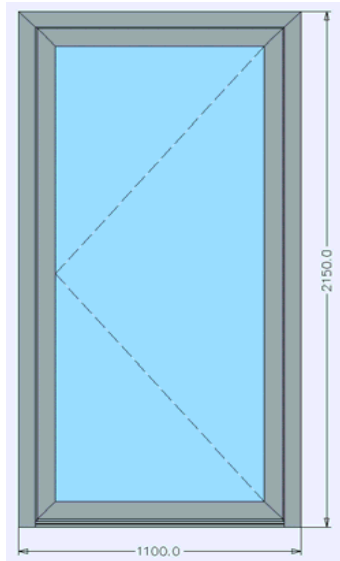


# Prüfungs Zertifikat Ud-Wert



## Ud - Messwerte der R-Serie Aluminium Energiespar-Haustüren

[www.adrik.de](http://www.adrik.de)

Typ **STANDARD** (siehe unten Nr. 2) mit 3-fach Isoglas 0.7 z.B. R500 = **Ud 0,96**

Typ **MODERN** (siehe unten Nr. 3) mit geschlossener Füllung z.B. R330 = **Ud 0,92**

Typ **EXCLUSIVE** (siehe unten Nr. 4) mit geschlossener Füllung z.B. R330 = **Ud 0,71**

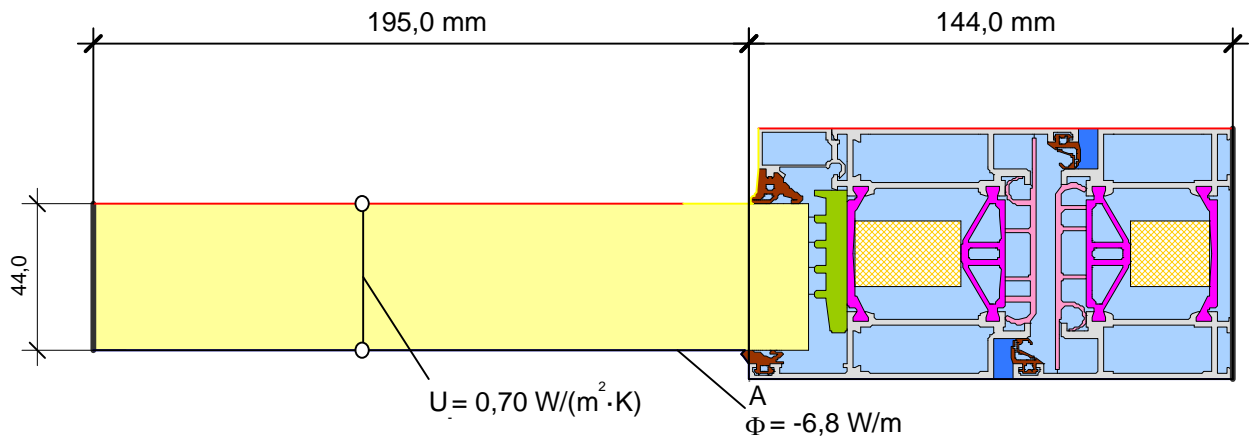
Prüfung basiert auf einer Türgröße 1200 x 2250 mm Rahmenaußenmaß

|           | Width        | 1200   |                           |                |                 |                           |                |                 |                      |                 |                 |
|-----------|--------------|--|---------------------------|----------------|-----------------|---------------------------|----------------|-----------------|----------------------|-----------------|-----------------|
|           | Height       | 2250   | Frame                     |                | Bottom Rail     |                           |                | Glazing / Panel |                      |                 |                 |
|           | Nr           | Description  | Calculation               | Width in [mm]  | Uf in (W/(m²K)) | Calculation               | Width in [mm]  | Uf in (W/(m²K)) | Ug / Up in [W/(m²K)] | Psi in (W/(mK)) | Ud in (W/(m²K)) |
| WL 75 evo | <del>1</del> | <del>Door with glazing 24mm</del><br><del>Dieser Typ nicht im Angebot von www.adrik.de R-Haustüren, da nur mit 2-Scheiben-Isolierglas ausgestattet ist !</del> | <del>ift 42242452/3</del> | <del>144</del> | <del>1,7</del>  | <del>ift 42242452/3</del> | <del>107</del> | <del>1,6</del>  | <del>1,1</del>       | <del>0,05</del> | <del>1,33</del> |
|           | 2            | Door with glazing 44mm<br><b>STANDARD</b>  | 110511_001                | 144            | 1,4             | 110511_002                | 107            | 1,5             | 0,7                  | 0,05            | <b>0,96</b>     |
|           | 3            | Door with panel 43mm<br><b>MODERN</b>  | 110511_003                | 151            | 1,4             | 110511_004                | 114            | 1,5             | 0,664                | 0               | <b>0,92</b>     |
|           | 4            | Door with panel 75mm<br><b>EXCLUSIVE</b>   | 110511_005                | 124,5          | 1,5             | 110511_006                | 87,5           | 1,7             | 0,394                | 0               | <b>0,71</b>     |

# Certificate

Thermal Transmittance  
WS 75 evo IT 44mm  
110511\_001

## Typ STANDARD



Subject

$$U_{fA} = \frac{\frac{\Phi}{\Delta T} - U_p \cdot b_p}{b_f} = \frac{\frac{6,777}{20,000} - 0,701 \cdot 0,195}{0,144} = 1,4 \text{ W/(m}^2 \cdot \text{K)}$$

U-Value

Principles DIN EN ISO 10077-2:2008-08 Thermal performance of windows, doors and shutters  
Calculation of thermal transmittance part 2: Numerical method for frames.

Calculation-program Flixo professional Version 6.10.506.1

Application Note The indicated values are for test conditions. The values could deviate at the building (in installed conditions)

Validity The data and results refer only to the described article. The determination of the heat transition coefficients does not make a statement about further achievement in quality-determining characteristics for the constructions basis.

Test execution Chr. Lindner

Content The certificate includes 2 pages. The first page can be used as short version.

Hydro Building Systems GmbH  
Product Management  
11.05.11

Boundary  
Conditions

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| Name  | q[W/m <sup>2</sup> ] | θ[°C]  | R[(m <sup>2</sup> ·K)/W] | ε     |
|---|----------------------|--------|--------------------------|-------|
| <span style="color: cyan;">■</span> Epsilon 0,1               |                      |        |                          | 0,100 |
| <span style="color: black;">■</span> Epsilon 0,9              |                      |        |                          | 0,900 |
| <span style="color: blue;">■</span> exterior frame            |                      | 0,000  | 0,040                    |       |
| <span style="color: yellow;">■</span> interior frame, reduced |                      | 20,000 | 0,200                    |       |
| <span style="color: red;">■</span> interior frame, standard   |                      | 20,000 | 0,130                    |       |
| <span style="color: gray;">■</span> symmetry/Model section    | 0,000                |        |                          |       |

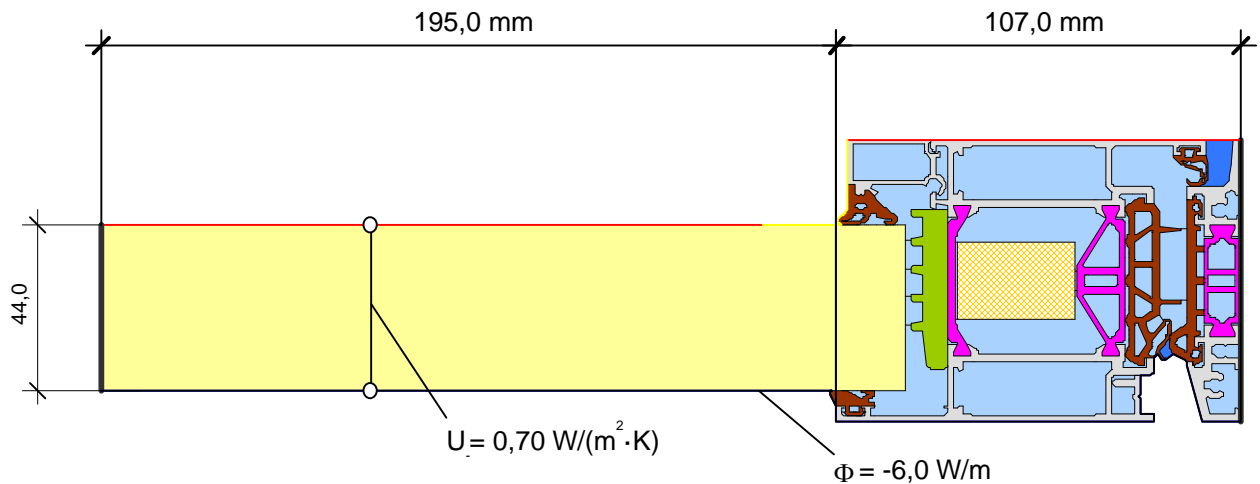
Material

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| Name  | λ[W/(m·K)] |
|---|------------|
| <span style="color: pink;">■</span> ABS                                     | 0,200      |
| <span style="color: gray;">■</span> Aluminium                               | 160,000    |
| <span style="color: brown;">■</span> EPDM                                   | 0,250      |
| <span style="color: yellow;">■</span> PUR 030                               | 0,030      |
| <span style="color: magenta;">■</span> Polyamid                             | 0,300      |
| <span style="color: blue;">■</span> Slightly ventilated air cavity, Eps=0.9 |            |
| <span style="color: green;">■</span> Super Illen                            | 0,040      |
| <span style="color: lightblue;">■</span> Unventilated air cavity, Eps=0.9   |            |
| <span style="color: yellow;">■</span> mask                                  | 0,035      |

# Certificate

Thermal Transmittance  
WS 75 evo IT 44mm  
110511\_002



Subject

$$U_f = \frac{\frac{\Phi}{\Delta T} - U_p \cdot b_p}{b_f} = \frac{\frac{6,035}{20,000} - 0,701 \cdot 0,195}{0,107} = 1,5 \text{ W}/(\text{m}^2 \cdot \text{K})$$

U-Value

Principles DIN EN ISO 10077-2:2008-08 Thermal performance of windows, doors and shutters  
Calculation of thermal transmittance part 2: Numerical method for frames.

Calculation-program Flixo professional Version 6.10.506.1

Application Note The indicated values are for test conditions. The values could deviate at the building (in installed conditions)

Validity The data and results refer only to the described article. The determination of the heat transition coefficients does not make a statement about further achievement in quality-determining characteristics for the constructions basis.







Test execution Chr. Lindner

Content The certificate includes 2 pages. The first page can be used as short version.

Hydro Building Systems GmbH  
Product Management  
11.05.11









Boundary  
Conditions

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| Name   | q[W/m <sup>2</sup> ] | θ[°C]  | R[(m <sup>2</sup> ·K)/W] | ε     |
|--|----------------------|--------|--------------------------|-------|
|  Epsilon 0,1              |                      |        |                          | 0,100 |
|  Epsilon 0,9              |                      |        |                          | 0,900 |
|  exterior frame           |                      | 0,000  | 0,040                    |       |
|  interior frame, reduced  |                      | 20,000 | 0,200                    |       |
|  interior frame, standard |                      | 20,000 | 0,130                    |       |
|  symmetry/Model section   | 0,000                |        |                          |       |

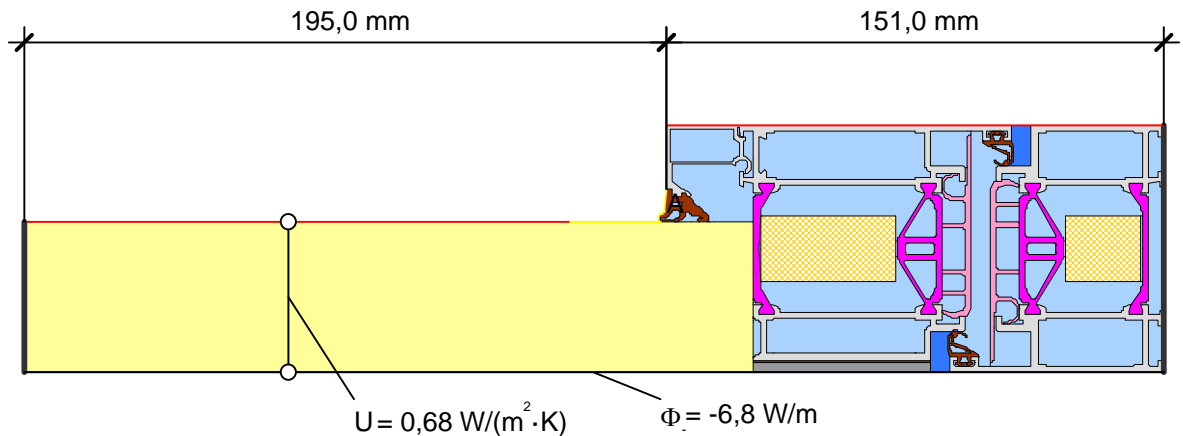
Material

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| Name  | λ[W/(m·K)] |
|---|------------|
|  Aluminium                               | 160,000    |
|  EPDM                                    | 0,250      |
|  PUR 030                                 | 0,030      |
|  Polyamid                                | 0,300      |
|  Slightly ventilated air cavity, Eps=0.9 |            |
|  Super Illen                             | 0,040      |
|  Unventilated air cavity, Eps=0.9        |            |
|  mask                                    | 0,035      |

# Certificate

Thermal Transmittance **Typ MODERN**  
WS 75 evo  
110511\_003



Subject

$$U_{fa} = \frac{\frac{\Phi}{\Delta T} - U_p \cdot b_p}{b_f} = \frac{\frac{6,833}{20,000} - 0,678 \cdot 0,195}{0,151} = 1,4 \text{ W}/(\text{m}^2 \cdot \text{K})$$

U-Value

Principles      DIN EN ISO 10077-2:2008-08 Thermal performance of windows, doors and shutters  
Calculation of thermal transmittance part 2: Numerical method for frames.

Calculation-program      Flixo professional Version      6.10.506.1

Application Note      The indicated values are for test conditions. The values could deviate at the building (in installed conditions)

Validity      The data and results refer only to the described article. The determination of the heat transition coefficients does not make a statement about further achievement in quality-determining characteristics for the constructions basis.

Test execution      Chr. Lindner

Content      The certificate includes 2 pages. The first page can be used as short version.

Hydro Building Systems GmbH  
Product Management  
11.05.11

Boundary  
Conditions

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| Name  | q[W/m <sup>2</sup> ] | θ[°C]  | R[(m <sup>2</sup> ·K)/W] | ε     |
|---|----------------------|--------|--------------------------|-------|
| <span style="color: cyan;">■</span> Epsilon 0,1               |                      |        |                          | 0,100 |
| <span style="color: black;">■</span> Epsilon 0,9              |                      |        |                          | 0,900 |
| <span style="color: blue;">■</span> exterior frame            |                      | 0,000  | 0,040                    |       |
| <span style="color: yellow;">■</span> interior frame, reduced |                      | 20,000 | 0,200                    |       |
| <span style="color: red;">■</span> interior frame, standard   |                      | 20,000 | 0,130                    |       |
| <span style="color: gray;">■</span> symmetry/Model section    | 0,000                |        |                          |       |

Material

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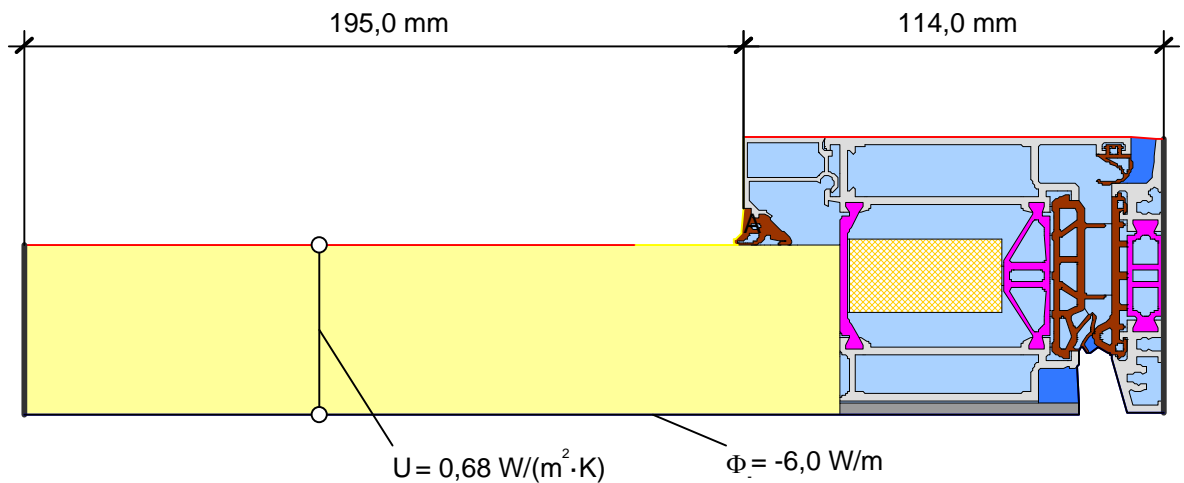
| Name  | λ[W/(m·K)] |
|---|------------|
| <span style="color: pink;">■</span> ABS                                     | 0,200      |
| <span style="color: lightgray;">■</span> Aluminium                          | 160,000    |
| <span style="color: gray;">■</span> Aluminium (1)                           | 160,000    |
| <span style="color: brown;">■</span> EPDM                                   | 0,250      |
| <span style="color: yellow;">■</span> PUR 030                               | 0,030      |
| <span style="color: magenta;">■</span> Polyamid                             | 0,300      |
| <span style="color: blue;">■</span> Slightly ventilated air cavity, Eps=0.9 |            |
| <span style="color: lightblue;">■</span> Unventilated air cavity, Eps=0.9   |            |
| <span style="color: yellow;">■</span> mask                                  | 0,035      |
| <span style="color: red;">■</span> silicone                                 | 0,350      |

# Certificate

Thermal Transmittance

WS 75 evo

110511\_004



Subject

$$U_{fA} = \frac{\frac{\Phi}{\Delta T} - U_p \cdot b_p}{b_f} = \frac{\frac{6,004}{20,000} - 0,678 \cdot 0,195}{0,114} = 1,5 \text{ W}/(\text{m}^2 \cdot \text{K})$$

U-Value

Principles      DIN EN ISO 10077-2:2008-08 Thermal performance of windows, doors and shutters  
Calculation of thermal transmittance part 2: Numerical method for frames.

Calculation-program      Flixo professional Version      6.10.506.1

Application Note      The indicated values are for test conditions. The values could deviate at the building (in installed conditions)

Validity      The data and results refer only to the described article. The determination of the heat transition coefficients does not make a statement about further achievement in quality-determining characteristics for the constructions basis.

Test execution      Chr. Lindner

Content      The certificate includes 2 pages. The first page can be used as short version.

Hydro Building Systems GmbH  
Product Management  
11.05.11



Boundary  
Conditions

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| Name  | q[W/m <sup>2</sup> ] | θ[°C]  | R[(m <sup>2</sup> ·K)/W] | ε     |
|---|----------------------|--------|--------------------------|-------|
| <span style="color: cyan;">■</span> Epsilon 0,1               |                      |        |                          | 0,100 |
| <span style="color: black;">■</span> Epsilon 0,9              |                      |        |                          | 0,900 |
| <span style="color: blue;">■</span> exterior frame            |                      | 0,000  | 0,040                    |       |
| <span style="color: yellow;">■</span> interior frame, reduced |                      | 20,000 | 0,200                    |       |
| <span style="color: red;">■</span> interior frame, standard   |                      | 20,000 | 0,130                    |       |
| <span style="color: gray;">■</span> symmetry/Model section    | 0,000                |        |                          |       |

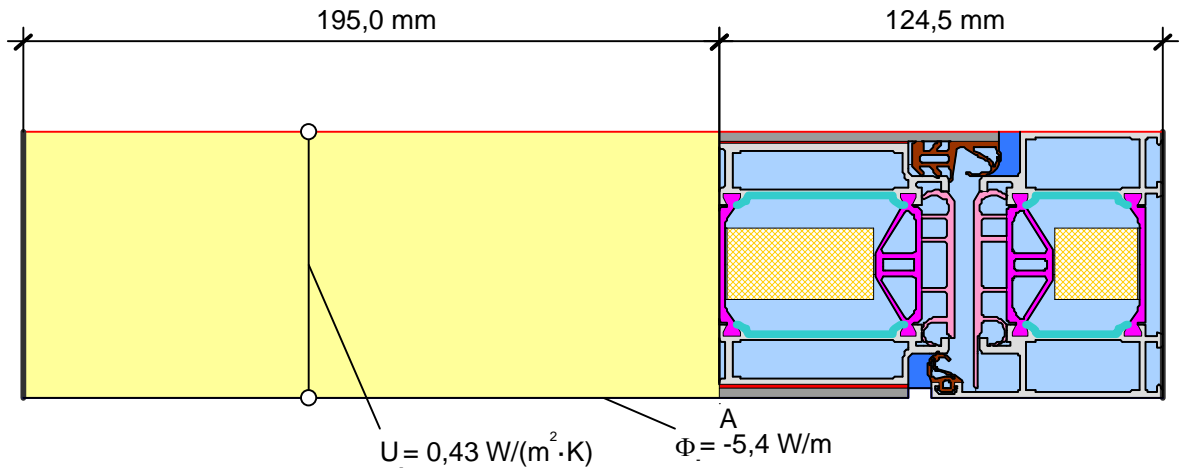
Material

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| Name  | λ[W/(m·K)] |
|---|------------|
| <span style="color: lightgray;">■</span> Aluminium                          | 160,000    |
| <span style="color: gray;">■</span> Aluminium (1)                           | 160,000    |
| <span style="color: brown;">■</span> EPDM                                   | 0,250      |
| <span style="color: yellow;">■</span> PUR 030                               | 0,030      |
| <span style="color: magenta;">■</span> Polyamid                             | 0,300      |
| <span style="color: blue;">■</span> Slightly ventilated air cavity, Eps=0.9 |            |
| <span style="color: lightblue;">■</span> Unventilated air cavity, Eps=0.9   |            |
| <span style="color: yellow;">■</span> mask                                  | 0,035      |

# Certificate

Thermal Transmittance **Typ EXCLUSIVE**  
WS 75 evo  
110511\_005



Subject

$$U_{fa} = \frac{\frac{\Phi}{\Delta T} - U_p \cdot b_p}{b_f} = \frac{\frac{5,400}{20,000} - 0,432 \cdot 0,195}{0,125} = 1,5 \text{ W/(m}^2 \cdot \text{K)}$$

U-Value

Principles DIN EN ISO 10077-2:2008-08 Thermal performance of windows, doors and shutters  
Calculation of thermal transmittance part 2: Numerical method for frames.

Calculation-program Flixo professional Version 6.10.506.1

Application Note The indicated values are for test conditions. The values could deviate at the building (in installed conditions)

Validity The data and results refer only to the described article. The determination of the heat transition coefficients does not make a statement about further achievement in quality-determining characteristics for the constructions basis.

Test execution Chr. Lindner

Content The certificate includes 2 pages. The first page can be used as short version.

Hydro Building Systems GmbH  
Product Management  
11.05.11

Boundary  
Conditions

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| Name  | q[W/m <sup>2</sup> ] | θ[°C]  | R[(m <sup>2</sup> ·K)/W] | ε     |
|---|----------------------|--------|--------------------------|-------|
| <span style="color: cyan;">■</span> Epsilon 0,1             |                      |        |                          | 0,100 |
| <span style="color: black;">■</span> Epsilon 0,9            |                      |        |                          | 0,900 |
| <span style="color: blue;">■</span> exterior frame          |                      | 0,000  | 0,040                    |       |
| <span style="color: red;">■</span> interior frame, standard |                      | 20,000 | 0,130                    |       |
| <span style="color: gray;">■</span> symmetry/Model section  | 0,000                |        |                          |       |

Material

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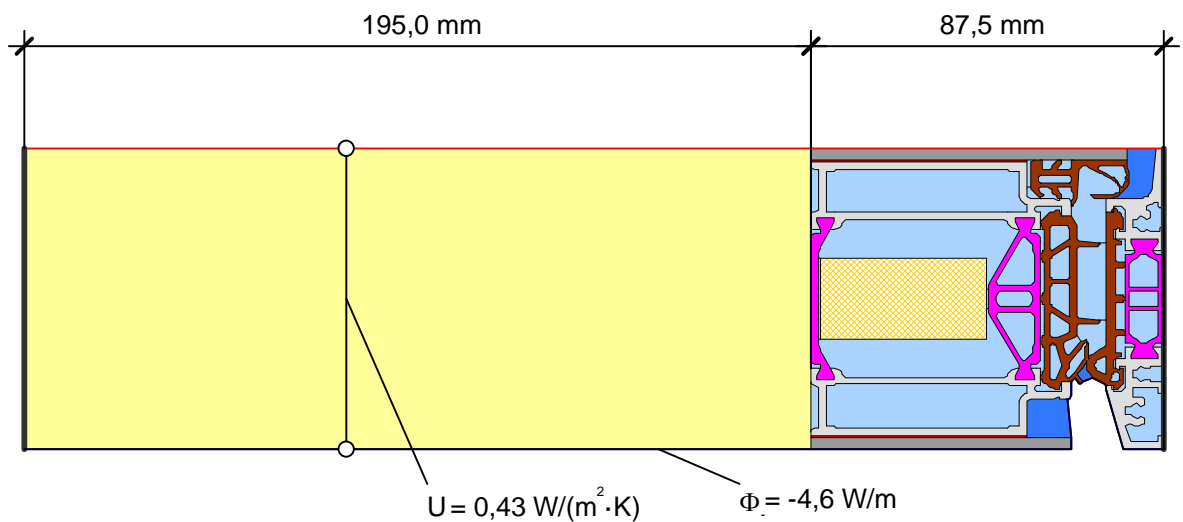
| Name  | λ[W/(m·K)] |
|---|------------|
| <span style="color: pink;">■</span> ABS                                     | 0,200      |
| <span style="color: lightgray;">■</span> Aluminium                          | 160,000    |
| <span style="color: gray;">■</span> Aluminium (1)                           | 160,000    |
| <span style="color: brown;">■</span> EPDM                                   | 0,250      |
| <span style="color: yellow;">■</span> PUR 030                               | 0,030      |
| <span style="color: magenta;">■</span> Polyamid                             | 0,300      |
| <span style="color: blue;">■</span> Slightly ventilated air cavity, Eps=0.9 |            |
| <span style="color: lightblue;">■</span> Unventilated air cavity, Eps=0.9   |            |
| <span style="color: yellow;">■</span> mask                                  | 0,035      |
| <span style="color: red;">■</span> silicone                                 | 0,350      |

# Certificate

Thermal Transmittance

WS 75 evo

110511\_006



Subject

$$U_f = \frac{\frac{\Phi}{\Delta T} - U_p \cdot b_p}{b_f} = \frac{\frac{4,639}{20,000} - 0,432 \cdot 0,195}{0,088} = 1,7 \text{ W}/(\text{m}^2 \cdot \text{K})$$

U-Value

Principles      DIN EN ISO 10077-2:2008-08 Thermal performance of windows, doors and shutters  
Calculation of thermal transmittance part 2: Numerical method for frames.

Calculation-program      Flixo professional Version      6.10.506.1

Application Note      The indicated values are for test conditions. The values could deviate at the building (in installed conditions)

Validity      The data and results refer only to the described article. The determination of the heat transition coefficients does not make a statement about further achievement in quality-determining characteristics for the constructions basis.

Test execution      Chr. Lindner

Content      The certificate includes 2 pages. The first page can be used as short version.

Hydro Building Systems GmbH  
Product Management  
11.05.11

Boundary  
Conditions

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| Name  | q[W/m <sup>2</sup> ] | θ[°C]  | R[(m <sup>2</sup> ·K)/W] | ε     |
|---|----------------------|--------|--------------------------|-------|
| <span style="color: cyan;">■</span> Epsilon 0,1             |                      |        |                          | 0,100 |
| <span style="color: black;">■</span> Epsilon 0,9            |                      |        |                          | 0,900 |
| <span style="color: blue;">■</span> exterior frame          |                      | 0,000  | 0,040                    |       |
| <span style="color: red;">■</span> interior frame, standard |                      | 20,000 | 0,130                    |       |
| <span style="color: gray;">■</span> symmetry/Model section  | 0,000                |        |                          |       |

Material

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| Name  | λ[W/(m·K)] |
|---|------------|
| <span style="color: lightgray;">■</span> Aluminium                          | 160,000    |
| <span style="color: gray;">■</span> Aluminium (1)                           | 160,000    |
| <span style="color: brown;">■</span> EPDM                                   | 0,250      |
| <span style="color: yellow;">■</span> PUR 030                               | 0,030      |
| <span style="color: magenta;">■</span> Polyamid                             | 0,300      |
| <span style="color: blue;">■</span> Slightly ventilated air cavity, Eps=0.9 |            |
| <span style="color: lightblue;">■</span> Unventilated air cavity, Eps=0.9   |            |
| <span style="color: yellow;">■</span> mask                                  | 0,035      |
| <span style="color: red;">■</span> silicone                                 | 0,350      |