



origin

DOORS AND WINDOWS

U-VALUE CERTIFICATES

In accordance with BS EN ISO 10077-2:2017

[2.296.3]

CERTIFICATE OF THERMAL SIMULATION

OB-36+

PRODUCT:

OB-36+ Bi-fold Door

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

0.5 W/m²K

INSULATION:

Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 0.78 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2024

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OB-36+

PRODUCT:

OB-36+ Bi-fold Door

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

0.6 W/m²K

INSULATION:

Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 0.85 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2024

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OB-36+

PRODUCT:	OB-36+ Bi-fold Door
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	0.9 W/m ² K
INSULATION:	Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 1.1 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: January 2024

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OB-36+

PRODUCT:

OB-36+ Bi-fold Door

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

1.1 W/m²K

INSULATION:

Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 1.2 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2024

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OB-36+

PRODUCT:

OB-36+ Bi-fold Door

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

1.2 W/m²K

INSULATION:

Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 1.4 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: January 2024

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OB-49

PRODUCT:

OB-49 Bi-fold Door

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

0.6 W/m²K

INSULATION:

Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 1.1 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OB-49

PRODUCT:

OB-49 Bi-fold Door

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

0.8 W/m²K

INSULATION:

Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 1.2 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OB-49

PRODUCT:

OB-49 Bi-fold Door

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

0.9 W/m²K

INSULATION:

Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 1.3 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OB-49

PRODUCT:

OB-49 Bi-fold Door

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

1.0 W/m²K

INSULATION:

Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 1.4 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OB-49

PRODUCT:

OB-49 Bi-fold Door

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

1.1 W/m²K

INSULATION:

Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 1.4 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OB-49

PRODUCT:

OB-49 Bi-fold Door

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

1.2 W/m²K

INSULATION:

Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 1.5 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OB-72

PRODUCT:

OB-72 Bi-fold Door

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

0.6 W/m²K

INSULATION:

Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 1.1 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OB-72

PRODUCT:

OB-72 Bi-fold Door

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

0.8 W/m²K

INSULATION:

Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 1.2 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OB-72

PRODUCT:

OB-72 Bi-fold Door

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

0.9 W/m²K

INSULATION:

Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 1.3 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OB-72

PRODUCT:

OB-72 Bi-fold Door

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

1.0 W/m²K

INSULATION:

Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 1.4 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OB-72

PRODUCT:

OB-72 Bi-fold Door

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

1.1 W/m²K

INSULATION:

Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 1.4 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OB-72

PRODUCT:

OB-72 Bi-fold Door

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

1.2 W/m²K

INSULATION:

Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 1.5 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

Residential Door (OB-72)

PRODUCT:	Origin Residential Door (OB-72)
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	1.1 W/m ² K
INSULATION:	Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 1.4 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

Residential Door (OB-72)

PRODUCT:	Origin Residential Door (OB-72)
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
PANEL:	Origin Kensington or Sandringham Range
INSULATION:	Kay-Cel EPS Thermal Insert

THERMAL TRANSMITTANCE (U-VALUE) 1.4 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OS-20

PRODUCT:

OS-20 Sliding Door

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

1.0 W/m²K

THERMAL TRANSMITTANCE (U-VALUE) 1.4 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OS-29/44/77

PRODUCT:

OS-29/44/77 Sliding Doors

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

0.7 W/m²K

THERMAL TRANSMITTANCE (U-VALUE) 1.3 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OS-29/44/77

PRODUCT:

OS-29/44/77 Sliding Doors

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

0.8 W/m²K

THERMAL TRANSMITTANCE (U-VALUE) 1.4 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OS-29/44/77

PRODUCT:	OS-29/44/77 Sliding Doors
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	1.0 W/m ² K

THERMAL TRANSMITTANCE (U-VALUE) 1.6 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-70

PRODUCT:	OW-70 Casement Window (Standard Frame)
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	0.8 W/m ² K

THERMAL TRANSMITTANCE (U-VALUE) 1.2 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-70

PRODUCT:	OW-70 Casement Window (Standard Frame)
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	1.0 W/m ² K

THERMAL TRANSMITTANCE (U-VALUE) 1.4 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-70

PRODUCT:	OW-70 Casement Window (Standard Frame)
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	1.1 W/m ² K

THERMAL TRANSMITTANCE (U-VALUE) 1.4 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-70

PRODUCT:	OW-70 Casement Window (Standard Frame)
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	1.2 W/m ² K

THERMAL TRANSMITTANCE (U-VALUE) 1.5 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-70

PRODUCT:	OW-70 Casement Window (Long Leg Frame)
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	0.8 W/m ² K
INSULATION:	Outer Frame EPS Thermal Insulation

THERMAL TRANSMITTANCE (U-VALUE) 1.2 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-70

PRODUCT:	OW-70 Casement Window (Long Leg Frame)
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	1.0 W/m ² K
INSULATION:	Outer Frame EPS Thermal Insulation

THERMAL TRANSMITTANCE (U-VALUE) 1.4 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-70

PRODUCT:	OW-70 Casement Window (Long Leg Frame)
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	1.1 W/m ² K
INSULATION:	Outer Frame EPS Thermal Insulation

THERMAL TRANSMITTANCE (U-VALUE) 1.4 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-70

PRODUCT:	OW-70 Casement Window (Long Leg Frame)
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	1.2 W/m ² K
INSULATION:	Outer Frame EPS Thermal Insulation

THERMAL TRANSMITTANCE (U-VALUE) 1.5 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-80

PRODUCT:	OW-80 Casement Window
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	0.5 W/m ² K

THERMAL TRANSMITTANCE (U-VALUE) 0.9 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-80

PRODUCT:	OW-80 Casement Window
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	0.6 W/m ² K

THERMAL TRANSMITTANCE (U-VALUE) 1.0 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-80

PRODUCT:	OW-80 Casement Window
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	0.8 W/m ² K

THERMAL TRANSMITTANCE (U-VALUE) 1.2 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-80

PRODUCT:	OW-80 Casement Window
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	1.0 W/m ² K

THERMAL TRANSMITTANCE (U-VALUE) 1.4 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-80

PRODUCT:

OW-80 Casement Window

SIM - SOFTWARE:

Physibel Building Physics Software - BISCO

GLASS CENTRE
PANE U-VALUE:

1.2 W/m²K

THERMAL TRANSMITTANCE (U-VALUE) 1.4 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-80

PRODUCT:	OW-80 Casement Window (Aerogel)
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	0.5 W/m ² K
INSULATION:	Aerogel

THERMAL TRANSMITTANCE (U-VALUE) 0.8 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-80

PRODUCT:	OW-80 Casement Window (Aerogel)
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	0.8 W/m ² K
INSULATION:	Aerogel

THERMAL TRANSMITTANCE (U-VALUE) 1.0 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-80

PRODUCT:	OW-80 Casement Window (Aerogel)
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	0.9 W/m ² K
INSULATION:	Aerogel

THERMAL TRANSMITTANCE (U-VALUE) 1.1 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-80

PRODUCT:	OW-80 Casement Window (Aerogel)
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	1.0 W/m ² K
INSULATION:	Aerogel

THERMAL TRANSMITTANCE (U-VALUE) 1.2 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-80

PRODUCT:	OW-80 Casement Window (Aerogel)
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	1.1 W/m ² K
INSULATION:	Aerogel

THERMAL TRANSMITTANCE (U-VALUE) 1.2 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*

CERTIFICATE OF THERMAL SIMULATION

OW-80

PRODUCT:	OW-80 Casement Window (Aerogel)
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO
GLASS CENTRE PANE U-VALUE:	1.2 W/m ² K
INSULATION:	Aerogel

THERMAL TRANSMITTANCE (U-VALUE) 1.3 W/M²K

All thermal simulations carried out in accordance with: BS EN ISO 10077-2:2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.

TESTED BY: Dean Franklin (Certified Thermal Simulator)

DATE: May 2022

SIGNED: *D. Franklin*