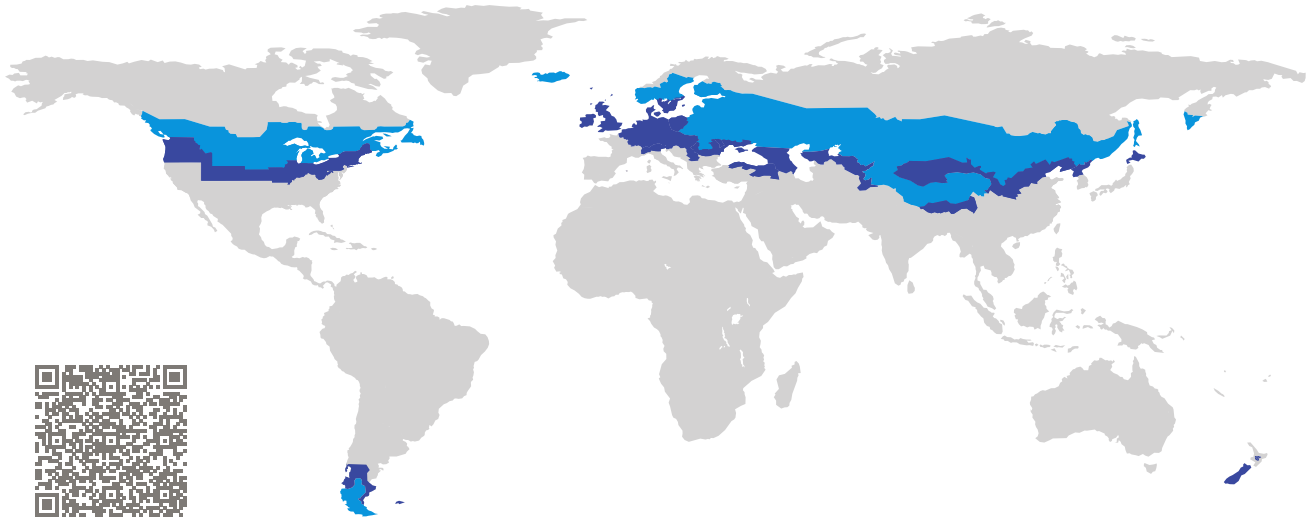


# CERTIFICATE

Certified Passive House Component

Component-ID 2350wi02 valid until 31st December 2025

Passive House Institute  
Dr. Wolfgang Feist  
64283 Darmstadt  
Germany

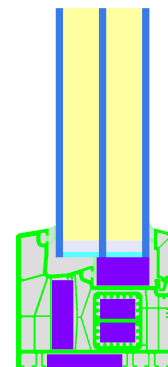


Category: **Fixed window**  
Manufacturer: **NZP Fenestration,  
Longueuil,  
Canada**  
Product name: **PassivCanada Cold fixed**

**This certificate was awarded based on the following  
criteria for the cold climate zone**

Comfort  $U_W = 0.59 \leq 0.60 \text{ W}/(\text{m}^2 \text{ K})$   
 $U_{W, \text{installed}} \leq 0.65 \text{ W}/(\text{m}^2 \text{ K})$   
with  $U_g = 0.52 \text{ W}/(\text{m}^2 \text{ K})$

Hygiene  $f_{Rsi=0.25} \geq 0.75$



Passive House  
efficiency class

phE

phD

phC

phB

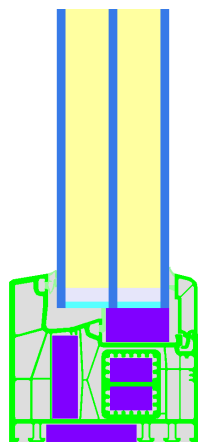
phA

cold climate

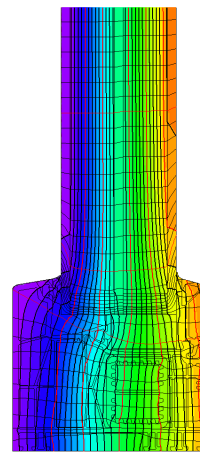


**CERTIFIED  
COMPONENT**

Passive House Institute



Calculation model



Isothermal

### Description

PVC frame with Neopor insulation (0.032 W/(m.K)) inside the cavities. Secondary seal in accordance with supplier data sheet, max. size 1.30 m x 1.70 m (white) or up to 1.00 m width in standard colors (see static table) in technical documents. The  $U_f$ -value of the sill section contains a surcharge for the simulated impact of the glazing support. Secondary sealant in accordance to technical documents

### Explanation

The window U-values were calculated for the test window size of 1.23 m × 1.48 m with  $U_g = 0.52$  W/(m<sup>2</sup> K). If a higher quality glazing is used, the window U-values will improve as follows:

|         |         |      |      |      |      |                      |
|---------|---------|------|------|------|------|----------------------|
| Glazing | $U_g =$ | 0.52 | 0.64 | 0.58 | 0.38 | W/(m <sup>2</sup> K) |
|         |         | ↓    | ↓    | ↓    | ↓    |                      |
| Window  | $U_W =$ | 0.59 | 0.69 | 0.64 | 0.48 | W/(m <sup>2</sup> K) |

Transparent building components are classified into efficiency classes depending on the heat losses through the opaque part. The frame U-Values, frame widths, thermal bridges at the glazing edge, and the glazing edge lengths are included in these heat losses. A more detailed report of the calculations performed in the context of certification is available from the manufacturer.

The Passive House Institute has defined international component criteria for seven climate zones. In principle, components which have been certified for climate zones with higher requirements may also be used in climates with less stringent requirements. In a particular climate zone it may make sense to use a component of a higher thermal quality which has been certified for a climate zone with more stringent requirements.

Further information relating to certification can be found on [www.passivehouse.com](http://www.passivehouse.com) and [passipedia.org](http://passipedia.org).

# Validated installations

**Lightweight timber (fixed glazed)**

$U_{Wall} = 0.10 \text{ W}/(\text{m}^2 \text{ K})$

| Material       | U-value $U_i$ $\text{W}/(\text{m}^2 \text{ K})$ | Thickness $d_i$ (mm) |
|----------------|---|----------------------|
| 1. Glass       | 1.1   | 6                    |
| 2. IGU         | 0.04  | 16                   |
| 3. Glass       | 1.1   | 6                    |
| 4. Frame       | 0.2   | 20                   |
| 5. Insulation  | 0.03  | 100                  |
| 6. Frame       | 0.2   | 20                   |
| 7. Glass       | 1.1   | 6                    |
| 8. IGU         | 0.04  | 16                   |
| 9. Glass       | 1.1   | 6                    |
| 10. Frame      | 0.2   | 20                   |
| 11. Insulation | 0.03  | 100                  |
| 12. Frame      | 0.2   | 20                   |
| 13. Glass      | 1.1   | 6                    |
| 14. IGU        | 0.04  | 16                   |
| 15. Glass      | 1.1   | 6                    |
| 16. Frame      | 0.2   | 20                   |
| 17. Insulation | 0.03  | 100                  |
| 18. Frame      | 0.2   | 20                   |
| 19. Glass      | 1.1   | 6                    |
| 20. IGU        | 0.04  | 16                   |
| 21. Glass      | 1.1   | 6                    |
| 22. Frame      | 0.2   | 20                   |
| 23. Insulation | 0.03  | 100                  |
| 24. Frame      | 0.2   | 20                   |
| 25. Glass      | 1.1   | 6                    |
| 26. IGU        | 0.04  | 16                   |
| 27. Glass      | 1.1   | 6                    |
| 28. Frame      | 0.2   | 20                   |
| 29. Insulation | 0.03  | 100                  |
| 30. Frame      | 0.2   | 20                   |

| $\Psi_{install}$ | $\text{W}/(\text{m K})$ |
|------------------|-------------------------|
| Top              | 0.004                   |
| Side             | 0.015                   |
| Bottom           | 0.023                   |

$U_{W,installed} = 0.64 \text{ W}/(\text{m}^2 \text{ K})$

**Solid timber (fixed glazed)**

$U_{Wall} = 0.10 \text{ W}/(\text{m}^2 \text{ K})$

| Material       | U-value $U_i$ $\text{W}/(\text{m}^2 \text{ K})$ | Thickness $d_i$ (mm) |
|----------------|---|----------------------|
| 1. Glass       | 1.1   | 6                    |
| 2. IGU         | 0.04  | 16                   |
| 3. Glass       | 1.1   | 6                    |
| 4. Frame       | 0.2   | 20                   |
| 5. Insulation  | 0.03  | 100                  |
| 6. Frame       | 0.2   | 20                   |
| 7. Glass       | 1.1   | 6                    |
| 8. IGU         | 0.04  | 16                   |
| 9. Glass       | 1.1   | 6                    |
| 10. Frame      | 0.2   | 20                   |
| 11. Insulation | 0.03  | 100                  |
| 12. Frame      | 0.2   | 20                   |
| 13. Glass      | 1.1   | 6                    |
| 14. IGU        | 0.04  | 16                   |
| 15. Glass      | 1.1   | 6                    |
| 16. Frame      | 0.2   | 20                   |
| 17. Insulation | 0.03  | 100                  |
| 18. Frame      | 0.2   | 20                   |
| 19. Glass      | 1.1   | 6                    |
| 20. IGU        | 0.04  | 16                   |
| 21. Glass      | 1.1   | 6                    |
| 22. Frame      | 0.2   | 20                   |
| 23. Insulation | 0.03  | 100                  |
| 24. Frame      | 0.2   | 20                   |
| 25. Glass      | 1.1   | 6                    |
| 26. IGU        | 0.04  | 16                   |
| 27. Glass      | 1.1   | 6                    |
| 28. Frame      | 0.2   | 20                   |
| 29. Insulation | 0.03  | 100                  |
| 30. Frame      | 0.2   | 20                   |

| $\Psi_{install}$ | $\text{W}/(\text{m K})$ |
|------------------|-------------------------|
| Top              | 0.003                   |
| Side             | 0.009                   |
| Bottom           | 0.015                   |

$U_{W,installed} = 0.62 \text{ W}/(\text{m}^2 \text{ K})$

**Exterior insulation and finishing system (EIFS) (fixed glazed)**

$U_{Wall} = 0.11 \text{ W}/(\text{m}^2 \text{ K})$

| Material       | U-value $U_i$ $\text{W}/(\text{m}^2 \text{ K})$ | Thickness $d_i$ (mm) |
|----------------|---|----------------------|
| 1. Glass       | 1.1   | 6                    |
| 2. IGU         | 0.04  | 16                   |
| 3. Glass       | 1.1   | 6                    |
| 4. Frame       | 0.2   | 20                   |
| 5. Insulation  | 0.03  | 100                  |
| 6. EIFS        | 0.03  | 100                  |
| 7. Frame       | 0.2   | 20                   |
| 8. Glass       | 1.1   | 6                    |
| 9. IGU         | 0.04  | 16                   |
| 10. Glass      | 1.1   | 6                    |
| 11. Frame      | 0.2   | 20                   |
| 12. Insulation | 0.03  | 100                  |
| 13. EIFS       | 0.03  | 100                  |
| 14. Frame      | 0.2   | 20                   |
| 15. Glass      | 1.1   | 6                    |
| 16. IGU        | 0.04  | 16                   |
| 17. Glass      | 1.1   | 6                    |
| 18. Frame      | 0.2   | 20                   |
| 19. Insulation | 0.03  | 100                  |
| 20. EIFS       | 0.03  | 100                  |
| 21. Frame      | 0.2   | 20                   |
| 22. Glass      | 1.1   | 6                    |
| 23. IGU        | 0.04  | 16                   |
| 24. Glass      | 1.1   | 6                    |
| 25. Frame      | 0.2   | 20                   |
| 26. Insulation | 0.03  | 100                  |
| 27. EIFS       | 0.03  | 100                  |
| 28. Frame      | 0.2   | 20                   |
| 29. Glass      | 1.1   | 6                    |
| 30. IGU        | 0.04  | 16                   |
| 31. Glass      | 1.1   | 6                    |
| 32. Frame      | 0.2   | 20                   |
| 33. Insulation | 0.03  | 100                  |
| 34. EIFS       | 0.03  | 100                  |
| 35. Frame      | 0.2   | 20                   |

| $\Psi_{install}$ | $\text{W}/(\text{m K})$ |
|------------------|-------------------------|
| Top              | 0.009                   |
| Side             | 0.009                   |
| Bottom           | 0.015                   |

$U_{W,installed} = 0.62 \text{ W}/(\text{m}^2 \text{ K})$

| Frame values                |       | Frame width $b_f$ mm | $U$ -value frame $U_f$ $\text{W}/(\text{m}^2 \text{ K})$ | $\Psi$ -glazing edge $\Psi_g$ $\text{W}/(\text{m K})$ | Temp. Factor $f_{Rsi=0.25}$ [-] |
|-----------------------------|-------|----------------------|--|---|---------------------------------|
| Mullion fixed               | (OM1) | 98                   | 0.58   | 0.019   | 0.79                            |
| Bottom fixed                | (FB1) | 78                   | 0.64   | 0.019   | 0.79                            |
| Top fixed                   | (FH1) | 78                   | 0.62   | 0.019   | 0.79                            |
| Lateral fixed               | (FJ1) | 78                   | 0.62   | 0.019   | 0.79                            |
| Spacer: SWISSPACER ULTIMATE |       |                      | Secondary seal: Hotmelt Butyl                            |   |                                 |

