

This is an in-progress Environmental Product Declaration (EPD) by VETTA Building Technologies Inc. for wood-aluminum window and door systems. Once all information is gathered, the EPD will be sent to verification by a third-party service.

All numbers are based on a 1000mm x 1000mm **Elite E92** window with a weight of 35.7 kg. The IGU is triple-glazed with a U_g -Value of **0.52 W/m²K**. The frame is PEFC pine with aluminum cladding. The U_w -Value is **0.72 W/m²K**.

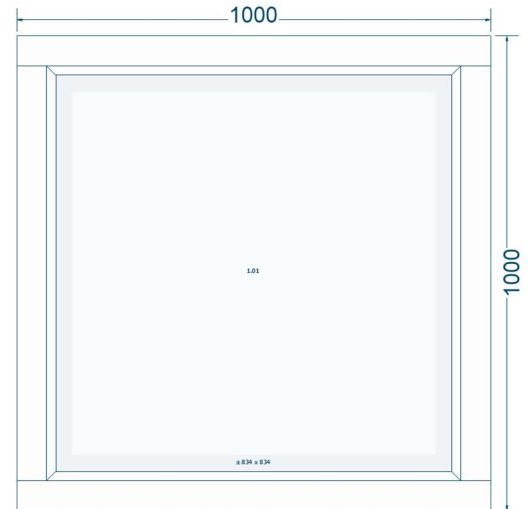


Figure 1: Test Elite E92 Window

RESULTS PER 1M² OF WOOD-ALUMINUM TILT & TURN WINDOW – TRIPLE GLAZED

| Indicator | Unit | A1-A3 | A4 | A5 | B1-B5 | C1-C4 | D |
|--------------|----------------------|--------|-------|----|-------|-------|---|
| GWP-fossil | kgCO ² eq | 64.42 | | | | | |
| GWP-biogenic | kgCO ² eq | -28.87 | | | | | |
| GWP-total | kgCO ² eq | 35.55 | 8.12* | | | | |



*Transportation from Factory in Sokolka, Poland to Montreal, Canada

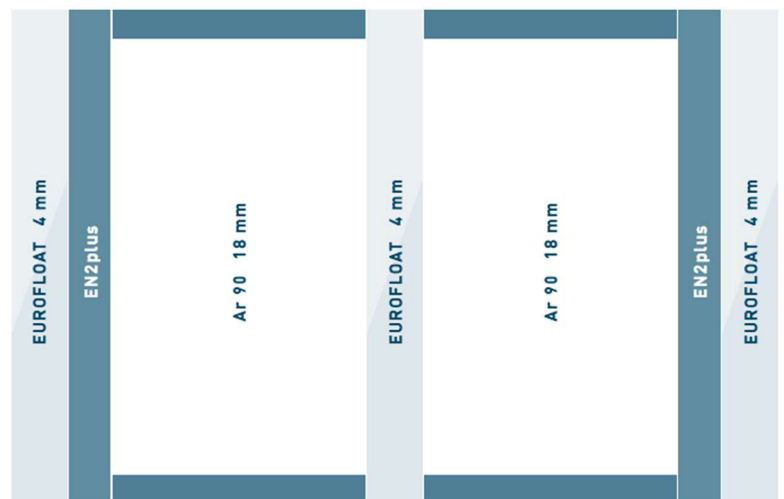
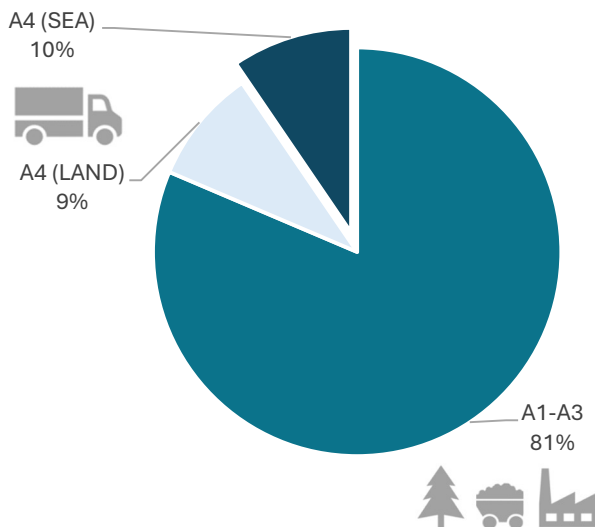


Figure 2: Total Embodied Carbon Distribution

Figure 3: Test IGU Configuration

ASSUMPTIONS & SOURCES



PRODUCT STAGE (A1-A3)

Insulated Glass Unit Manufacturer EPD

Pressglass: EPD-MIG-GB-61.0

Aluminum Cladding Manufacturer EPD;

Aluron Aluminum: ITB No. 525/2023

Hardware Manufacturer EPD (Proxy);

Arge Fittings: EPD-ARG-20160194-IBG1-EN

CLT Manufacturer EPD (Proxy);

Stora Enso CLT: EPD-IES-0009949:003

Unit is composed of 38% wood and 62% glass;
based on US customs LACEY declaration requirements

Weight of aluminum cladding to be 9kg;
based on WINPRO production software calculation

1m³ of pine wood equals 450kg;
based on online tool (coolconversion.com)

50% of CLT weight is stored biogenic carbon;
based on EN 16449:2014

TRANSPORTATION (A4)

Diesel consumption to port 150L, empty return consumption 54L;

470km*2 (roundtrip between Sokolka and Gdynia);

based on information received from logistic partners

20 pallets, 7 units each in one container;

based on actual container loads over a three-month average

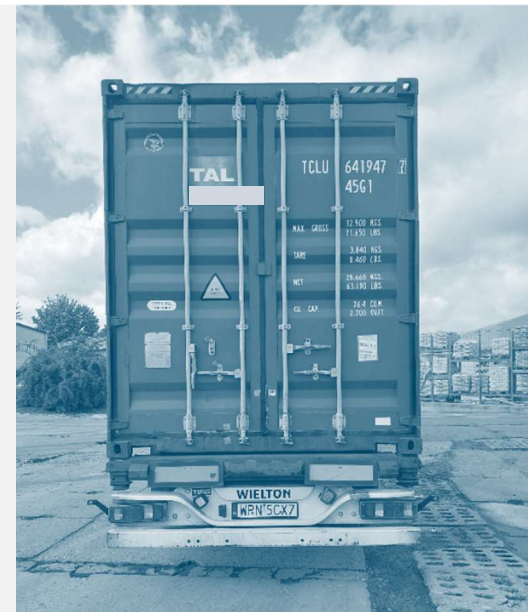
Average unit size to be 1.82m²;

based on typical window size

Empty container weight of 3900kg;

Average weight of VETTA product to be 6900kg;

based on average container weight



EXCLUSIONS & NEXT STEPS

EXCLUSIONS

LCIA categories: *Ozone depletion, eutrophication, acidification, resource depletion*

LCA Stages: *A5 – D (Building Construction/Installation – Reuse)*

Portion of A2: *Transport within Poland from glass and aluminum manufacturer to factory*

Portion of A4: *Montreal to customer delivery*

Product

Construction

Maintain and Use

End of Life

Beyond the Lifecycle

REDUCTION & INITIATIVES

Over the past few years our efforts have focused on driving carbon out of domestic transport, from sea arrival to customer delivery, as follows:

- Sharing containers across multiple client orders to maximize container space utilization
- Shipping doors, where feasible, in a vertical position to maximize container space utilization
- Configuring pallets to maximize container space utilization
- Replacing container destuff/long haul trucking with rail within Canada
- Diverting containers to various seaports closest to the cargo's destination (incl. Halifax, St. Johns and New York)
- Switching cross-dock warehousing from Stratford to Toronto, to minimize truck drayage from Toronto rail terminal
- Increasing usage of LTL (less-than-full load) trucking for small order deliveries, to maximize space utilization
- Avoiding air transport when possible (when necessary, use space on scheduled passenger- instead of cargo-flights)

In 2024 we are working with our freight partner to expand our efforts as follows:

- Expand sea shipments direct into southern US ports such as Houston
- Reduce empty return trucks, by coordinating port pick-ups of non-VETTA cargo at the Port of Gdynia
- Use Panama Canal for containers to the USA and Canada west coast (this was our default option in former years; however, severe drought in the canal combined with extensive congestion at west coast ports eliminated availability of this route until July 2024)

V2 UPDATES

- Exclusions have been added
- Reduction and initiatives have been added
- A4 has been updated to reflect updated container weight, typical window size, and diesel consumption
- Figure 2 (total embodied carbon distribution) has been updated