

The Solarlux SDL Avantgarde Wintergarden System is a thermally insulated wood/aluminium profile system with its structural members located on the inside. This type of construction makes a variety of designs possible without being limited to standard types. By installing the appropriate units, glazing, ventilation and shading facilities, the EnEV requirements for heated wintergardens of habitable room standard are met.

### Design features

- | The supporting structure is built from choice spruce laminated timber which meets BS 11 class for strength according to DIN 1052-1. The laminated timber used is "almost knot-free" and of special quality. Timber from a sustainable forest management system is available. The structure is designed in such a way that no static loads come to bear on the units. All external units such as side rafters, supports in the vertical section as well as external end-grain surfaces are protected by vented Solarlux aluminium cladding system profiles.
- | The laminated timber rafters are distortion-free, resistant to crack formation and have excellent stability. Depending on the structural requirements, different sizes are used. The rafters are covered by a double skin aluminium profile system with continuous plastic insulation profile. The aluminium base profiles are installed on the rafters, eaves and ridge, thus always ensuring that glass is supported on four sides. Tightness of fitting is ensured by consistent contact pressure by the clamping profiles onto the sealed glass units. Condensate which collects in the bottom of the rebate is drained away via the aluminium base profiles and the rafter insulation strips in a controlled manner to the gutter. All gaskets are made of non-ageing, permanently elastic EPDM material.
- | The powder-coated radiussed system profiles form an aesthetic unit. The design is elegant and timeless and an excellent weather protection.
- | Roof pitches of 5° to 45° are possible. The lean-to design makes installation simple.
- | Roof glazing from 26 to 48 mm thickness is envisaged supported on all four sides. Depth of glazing rebate, glazing rebate ventilation and glazing rebate drainage meet the requirements of the glazing industry.
- | The units are fitted with the necessary distance from supports and eaves against the rebates of the units. Thus dimensional inaccuracies in the building structure and components can be compensated.
- | The supports are protected from the weather by aluminium profiles with the rebate on the outside and are suitable for all unit thicknesses from 50 to 90 mm and are fitted from the inside without any visible screw joints. The timber beading on the inside on supports and eaves is carried out in the colour of the wintergarden.

- | The glazing division bar is friction-joined to the rafters and is thus capable of successfully transferring the load from the glass to the rafters. The cascading type of drainage is the most effective way of channelling away condensation that may be formed in the area of the transom, eaves and wall rail.
- | Gutter connectors are used to join gutters by a tight fit at any angle.
- | For the ventilation of wintergardens, high-grade roof-lights are used which can be operated manually or electrically. Air vents and cross-flow fans which can be automatically controlled are also available.

### Timber preservation

- | Prior to surface treatment, all edges are radiussed to prevent peeling off of paint.
  - | Preservation treatment for spruce / fir by dipping process. Colourless, quick-drying, paint-compatible antifungal preservative is used. Characteristics: protects timber surfaces against attack by blue stain and rot, penetrates very deeply into spruce, particularly into end-grain wood. Reduces moisture absorption due to increased water-repelling function, reduces the absorbency of wood significantly, improves adhesion of subsequent paintwork and assists a consistent colouring / shading free from stripes and inconsistency where wood is stained.
  - | Primary coating by dipping. Wood stain for outdoors and indoors is used for staining as pre-treatment of hardwood and softwood components. Base coating for staining systems. Characteristics: water soluble, applicable by dipping, flow coating and spraying, consistent surface effect, UV protective, moisture-controlling, rapid drying, environment-friendly since low in pollutants.
- Intermediate treatment: Spraying process, water-soluble high-build stain for indoor and outdoor applications, with a silky sheen for sprayed-on intermediate and top coats for windows and façade units. Characteristics: water-soluble, highly weather-resistant, good microporous qualities, highly elastic, without unpleasant odours.
- | Final treatment: Spraying, repeat of intermediate treatment with sanding between coats until the finished surface is reached.

- | For design and cost estimating during the planning stage, tables for structural calculations are available for preliminary dimensioning purposes. Structural calculations for the system chosen for the property under consideration can be available at short notice.
- | The roof structure of the wintergarten is delivered pre-fabricated and pre-assembled which means that installation times are noticeably reduced. The wintergarten can therefore be installed on site without much additional preparatory work. All end pieces are already mounted, the openings for the downpipes, if detailed, drilled, the bolted joints of the rafters pre-drilled. The adjustable foot plates make it easy to align the roof structure exactly.
- | The well-proven roofing system does not require siliconing. The precise dimensions of the units are available from the drawings of the order acknowledgement and can be used for the manufacture of the units which can take place concurrently and would be available at the time of delivery of the roofing structure. In the case of single-pitch roofs, the dimensions for the glass are provided with the order acknowledgement. In the case of other types of roof, the dimensions are made available approximately 1 week prior to delivery. Thus the installation of the complete winter garden comprising roofing structure, glazing and units can take place in one go. Thus installation costs are reduced and end users guaranteed satisfied.
- | Preferred upright units are Solarlux wood/aluminium systems SL 67 and SL 68HA.