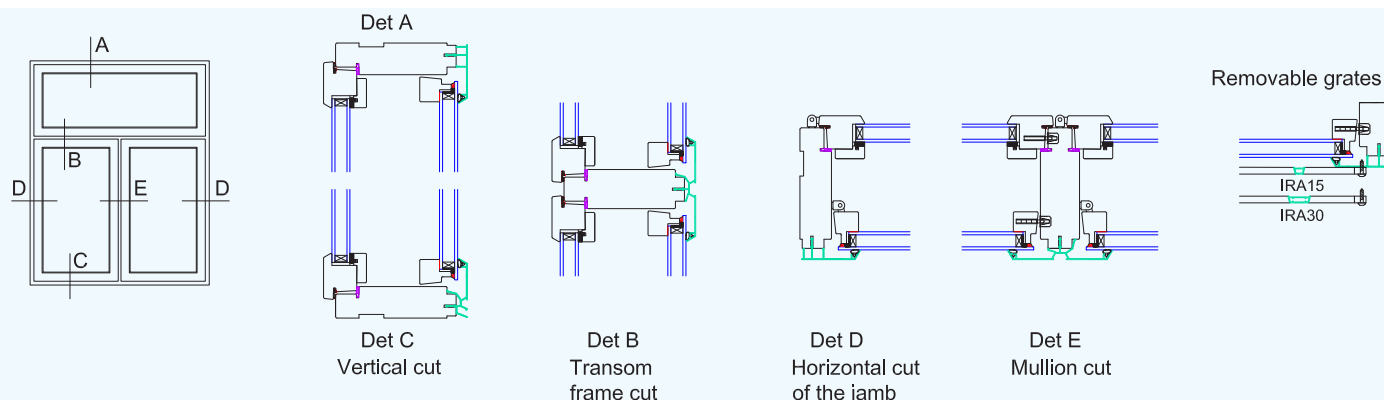




Windows &amp; Doors

# Lammin® Watt Eco WNS-A window



At the top of the Watt range, Watt Eco WNS-A energy windows are in the A++ energy class. When viewed from the inside, the window is made completely of warm and ecologically friendly Finnish pine. From the outside, the window is aluminium, rendering it as maintenance-free as possible, and the outer sash is fully protected with glass. The design of the window's outer sash structure is protected intellectual property. The bevelled shape of the inner sash in these models makes Lammin sturdy, energy-efficient inner sashes appear more elegant, and the rectangular surface fitting selected for the model matches the style. The windows are manufactured per the requirements indicated for the customer and the construction site. They are suitable for new structures and repair/renovation projects alike.

Lammin windows have been certified as qualified to bear the FI label, and they comply with the requirements set for the highest classes specified in EN standards for rainproof structure, airtightness, and withstanding of wind pressure. The dimensions, models, shapes, and colours; energy-efficiency of the glass portion; safety-related characteristics of the panes of glass; and additional features and equipment are always selected individually for each order and product.

The order and order confirmation with the product charts cover only the product quantities and quality, surface treatments, and equipment mentioned in them.

## Raw wood material and surface finishing of wooden parts

All wooden parts of Lammin windows are made from carefully selected branchless Finnish pine that is expertly jointed and laminated.

- The frame structure is always finger-jointed and laminated solid pine. Frame surfaces that remain visible after installation are branchless. The frame depths are 145, 175, and 200 mm.
- The inner and outer sash of the painted product are made from branchless finger-jointed pine.
- The inner sash of the product with translucent coating is non-finger-jointed pine, with a branchless surface visible from the inside.

The inner surfaces of the sashes and the frame are polished with a machine, primed, levelled where required, and polished again carefully by machine prior to application of the final coat of paint. The same procedures are performed for the products with a translucent coating. For the white paint, the standard colour is NCS 0502-Y. The translucent tones are in accordance with the Teknos translucent-coating colour chart, including water-dilutable varnish for the inner sash surface. Refer to the colour selection chart.

## Aluminium profiles and their surface finishing

In Watt Eco energy windows, only the outermost protection for the frame consists of an aluminium profile. The priming

method used is yellow chroming, and the surface treatment is implemented as powder coating in RR or RAL colours. Refer to the colour selection chart. The method used for attachment of the aluminium cladding that protects the frame from the weather has been studied well, and testing has proved it to be sturdy. The ventilation between the wood and aluminium has been taken into account in the frame structures, with attention paid also to aluminium's expansion with heat. The cladding profile of the sill is tightly plugged at its ends, it has good storm-water removal, and there are a mounting groove and locking cam for convenient and tight 'snap-in' attachment of the flashing.

## Glasses and glazing

All glasses are float glass of quality class 1. The insulation glasses of both sashes have FI approval, and their thickness is always at least 4 mm. The special glasses are selected order- or window-specifically in consideration of the energy-class requirements, needs for sound insulation, and safety-glass regulations. The glazing beads of white windows are UV protected, body-tinted white plastic. The glazing beads of the windows with a translucent coating or special paints are made of plastic or wood. The Watt Eco window does not feature any separate glazing beads in its outer sash.

## Fittings

The hinges are bolt hinges, M8×30 and 35/PS Fe/Zn. The lever bolts of ventilation windows are Abloy 68 Fe/Zn, and other locks of the opening light windows are Abloy 71 Fe/Zn for inner sashes and Abloy 72 Fe/Zn for outer sashes. Striker fittings for window locks and lever bolts are Fe/Zn. The stay fastener of the ventilation window is Abloy type WF 250 Muo/Al in grey as the standard delivery, or Morite Fe/Zn by separate order. The casement handles of the ventilation window are Abloy Polar 56/062 Zn/JVA in white options and Zn/Cr in translucent colours. The window locks' escutcheons for the inner sash are white in the white windows; for translucent options, they are chromed. Refer to the colour selection chart.

## Draught exclusion (weather strips)

The frame and casement structures are sturdy, and they create a 10 mm-space in both the inner sash beam and the frame rebate for special seal. The groove seal continues uninterrupted also around the casement corners. In products with a white paint finish, the seal is white; in other products, it is black. The outer sash seal is a black rubber seal installed in the aluminium profile groove, taking ventilation of the space within the casement into account.

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