

TENDER DESCRIPTION - WOOD/ALUMINIUM

Intro

The manufacturer's door and window range can be prescribed in a project by applying the general specifications below. These specifications can be customised to suit the customer's requirements and wishes.

General description

Windows and doors must be made in Denmark and the manufacturer must be a member of the Association of Danish Window Manufacturers. The company's quality management and finished elements must fulfil the requirements for, e.g. construction, performance, materials and surfaces specified in DVV's - Dansk Vindues Verifikation (Danish Window Verification) Technical Regulations. All elements must be DVV labelled and have a 10-year warranty.

The window and door manufacturer must also have product liability insurance.

Wood

The manufacturer must use certified wood (Northern European pine (Pinus Sylvestris)). The density of finger jointed wood must be at least 480 kg/m³ as a mean value at a moisture content of 12 ± 2%. The proportion of heartwood for wooden elements must be min. 90%, and for wood/aluminium elements, min. 60%, in the areas shaded in DVV's Technical Regulations, Appendix 10.

Suppliers of finger jointed wood must be subject to an independent inspection scheme approved by the Association of Danish Window Manufacturers, such as NCS. Window manufacturers who make finger jointed wood, as well as manufacturers of special components such as curved elements, must enter into an agreement with the certification body for inspection and can then use finger jointed wood under the following conditions.

The adhesive used must fulfil all requirements for class D4 according to EN 204 and resistance and strength at 80°C according to EN 14257.

Laminated wood (door frames) - classification of adhesives

(C4 and D4 according to EN204) and standards/tests (according to EN205).

All wood must be finger jointed in accordance with DIN 68140 or an equivalent recognised standard.

Surface treatment wood

The surface treatment must be carried out according to the 2-Eco system. The layer thickness must have a mean value greater than 80 µm. Furthermore, the requirements specified in DVV's Technical Regulations, Appendix 14, must be observed.

The paint used must be propiconazole-free.

Hardwood must be treated with a wood preservative oil that fulfils the requirements of DVV's Technical Regulations.

Aluminium

Extruded material - aluminium profiles

The material must be either EN AW-6060 or EN AW-6063 with curing condition T6.

Manufacturing tolerances according to PN-EN 12020-2.

Some aluminium profiles are manufactured with a low carbon content, which must be verified according to ISO 14064 by DNV GL.

Aluminium profiles should be mounted with clips that ensure ventilation between the wooden frame and aluminium, or VHB tape.

It must not be possible to remove the aluminium profiles when the elements are closed.

Aluminium sheet

Materials EN AW 1050 A - rolled products 99.50% pure aluminium with a thickness of 1.5 mm must be used, but for anodizing EN AW 5005 H14 Anodizing Quality with thickness: 1.5 mm must be used.

Surface treatment aluminium

Powder coating

Extruded aluminium profiles and aluminium plates (EN AW 1050 A) must be powder coated, according to Qualicoat Seaside certification, to a layer thickness of 60-80 µm. Standard gloss 30. Also offered for Corrosion Category C3. Aluminium profiles must be pre-treated and painted in accordance with the requirements of Qualicoat AL 631. On visible surfaces of the product, the thickness of the powder coating should be 60-120 µm. in gloss 30.

Sealing gaskets

Sealing gaskets must be produced in grey and/or black EPDM and meet the requirements of DVV's Technical Regulations. The sealing strips are mounted in grooves in the sash and are therefore interchangeable.

Glass tape

Sealing gaskets must be made of black EPDM cellular rubber. Glazing bead tape must be made of black PVC-free Thermo plastic material.

Frames and sash

Wood-aluminium construction:

Standard dimensions should be 124 mm on the frame and 102 mm and 112 mm on the transom/mullion.

The element construction must be as following:

Frame dimensions: 46 x 96/124/154/184 mm incl. 10 mm aluminium cladding.

Transom/mullion dimensions: 60 x

96/102/112/122/124/154/184 mm incl. 10 mm aluminium cladding.

Window sash dimensions: 55x74 mm incl. 10mm aluminium cladding.

Door frame dimensions: 102x74mm incl. 10mm aluminium cladding.

E-bar dimensions: 24/42/60 mm

The bottom rebate must be executed with a 7° outward slope.

The height of the overall window construction must be 89 mm. The height of the overall door construction must be

116 mm with 25 mm fiberglass or aluminium thresholds and 137 mm with hardwood threshold.

Threshold

Thresholds must be either 25 mm fiberglass, 46 mm hardwood made of oak or sapele mahogany.

Hardwood thresholds must fulfil density requirements of min. 600 kg/m³, see DVV's Technical Regulations and hardness as min. class 3 according to EN 350-2.

Fittings, hinges

All fittings must be made of natural anodized aluminium, plastic, steel with electro-galvanization in accordance with DVV's Technical Regulations. All standard and coloured hinges must be continuously salt spray tested according to ASTM G85 A5 for 480 hours. All windows must be supplied with standard burglar resistance.

Glass

All low-energy glazing must be supplied with a warm edge and must be manufactured according to DS/EN 1279. Insulating glass units must be safety glued and installed according to construction requirements in DVV's Technical Regulations.

Standard glass dimensions:

2- layers of wood/aluminium: 32 mm (4-24-4)

3- layers of wood/aluminium: 47 mm (4-18-3-18-4)

Vents

Vents on outward opening elements must have a concealed external air intake. The internal vent must be of the ClickVent type.

Energy performance

Reference window must comply with the following specifications:

2-layer standard glazing: $E_{ref} -12.1$

kWh/m²U_w 1.35 W/m²·K

3-layer standard glazing: $E_{ref} 8.6$ kWh/m²

U_w 0.78 W/m²·K

Environmental product declarations

Product-specific environmental product declarations (EPDs) must be prepared for selected products.

Functional types wood/aluminium elements

Fixed frame:

The frame must be fitted with glass/panels with no possibility of opening.

Dummy sash:

The sash must be fixed to the frame and with glass/panels fitted in the frame without the possibility of opening.

Side-hung window with espagnolette:

Open function: The sash must be outward opening, fitted with butt/recessed hinges in the frame and sash. Hinges must be adjustable.

Closing function: the window must be fitted with a matt handle, security espagnolette, handle-operated brake and adjustable security strike plate.

Side-hung window with fasteners:

Open function: The sash must be outward opening, fitted with butt/recessed hinges in the frame and sash. Hinges must be adjustable.

Closing function: the window must be fitted with fasteners and storm hooks. Fasteners should be adjustable.

Side-guided window with espagnolette:

Open function: The sash must be outward opening, fitted with sliding fittings in the frame and sash.
The friction of the fittings must be adjustable. The window must be able to open to 90 degrees, allowing the exterior side of glass to be cleaned.

Closing function: the window must be fitted with a matt handle, security espagnolette and adjustable security striker plate.

Side guided window with fasteners:

Open function: The sash must be outward opening, fitted with sliding fittings in the frame and sash.
The friction of the fittings must be adjustable. The window must be able to open to 90 degrees, allowing the exterior side of glass to be cleaned.

Closing function: the window must be fitted with fasteners and storm hooks. Fasteners should be adjustable.

Top-guided window:

Open function: The sash must be outward opening, fitted with sliding fittings in the frame and sash.
The sliding fitting is adjustable.

Closing function: the window must be fitted with a matt handle and roller espagnolette. The roller espagnolette fitted with power plate and security striker plate with ventilation position. The rollers on the espagnolette are eccentric and adjustable.

Top-reversible window:

Open function: The sash must be outward opening, fitted with sliding fittings in the frame and sash.
The sash must be able to be turned 170 degrees, allowing the exterior side of glass to be cleaned. The window must be fitted with security restrictor as standard.

Closing function: the window must be fitted with a matt handle and roller espagnolette. The roller espagnolette fitted with power plate and security striker plate with ventilation position. The rollers on the espagnolette are eccentric and adjustable.

Tilt-and-turn window:

Open function: The sash must be inward opening, mounted with corner fittings in the frame and sash. The corner fitting is adjustable. It must be able to open in tilt position when the handle is activated in horizontal position (90 degrees). When the handle is turned to its full position (180 degrees), the window can be opened in the turn position. It must also be offered with turn before tilt functionality.

Closing function: the window must be fitted with a matt handle, roller espagnolette and safety strike plate with ventilation position. The rollers on the espagnolette are eccentric and adjustable.

Tilt-and-turn door:

Open function: The sash must be inward opening, mounted with corner fittings in the frame and sash. The corner fitting is adjustable. It must be able to open in tilt position when the handle is activated in horizontal position

(90 degrees). When the handle is turned to its full position (180 degrees), the window can be opened in the tilt position. It must also be offered with turn before tilt functionality.

Closing function: the door must be fitted with a matt handle, roller espagnolette and safety strike plate with ventilation position. The rollers on the espagnolette are eccentric and adjustable.

The door must be available with a low fiberglass threshold (25 mm) or hardwood threshold (46 mm).

Window door:

Opening function: the sash must be outward opening. It must be fitted with visible and adjustable hinges.

Closing function: the door must be fitted with a matt handle and a latch espagnolette, handle-operated brake and adjustable strike plate with a ventilation position. For double window doors, the slave leaf must be fitted with flush bolts.

The door must be available with a low fiberglass threshold (25 mm), aluminium threshold (25 mm) or hardwood threshold (46 mm).

Patio door:

Opening function: the sash must be either outwards or inwards opening. Must be fitted with visible and adjustable hinges.

Closing function: the door must be fitted with a matt handle and a latch bolt espagnolette, handle-operated brake and adjustable striker plate. For double patio doors, the slave leaf must be fitted with flush bolts.

The door must be available with an aluminium threshold (25 mm), low fiberglass threshold (25 mm) or hardwood threshold (46 mm).

Front door:

Opening function: the sash must be either outwards or inwards opening. Must be fitted with visible and adjustable hinges.

Closing function: the door must have a 3-point espagnolette with hook bolts and latch, along with an adjustable strike plate.

The door must be available with an aluminium threshold (25 mm), low fiberglass threshold (25 mm) or hardwood threshold (46 mm).

Lift and slide door:

Opening function: the moving sash must be an outward-running sash, mounted on lift and slide fittings.

Closing function: the door must be fitted with a matt handle and espagnolette with a safety locking pin. The handle rotates 180 degrees and lifts the moving sash, which can be pushed aside.

The door must be available with a low fiberglass threshold (25 mm) or hardwood threshold (46 mm).

Double lift and slide door:

Opening function: the moving sashes must be on outward-running sashes, mounted on lift and slide fittings.

Closing function: the door must be fitted with a matt handle and espagnolette with a safety locking pin. The handle rotates 180 degrees and lifts the moving sashes that can be pushed aside.

The door must be available with hardwood threshold. It must be offered in heights up to 2800 mm and widths up to 8000 mm, and it must be deliverable in modular sections for easier handling.

Folding door:

Opening function: folding door sashes must be outward opening. They must be fitted with visible hinges, both external and internal. The hinges must be fitted with folding door fittings in the top track and roller fittings against the threshold. Hinges must be adjustable.

Closing function: the door must be fitted with a matt handle and handle-operated espagnolettes with adjustable striker plates.

The door must be available with hardwood threshold. It must be offered in heights up to 2400 mm and widths up to 7000 mm (3-10 sections.) It must also be deliverable in modular widths of 4200 mm for easier handling.