

History – Technical Requirements 7th Edition, Rev. 2 – July 2010

The following is added:

Updated and approved on 05.11.10

The following section:

7th Edition, Rev. 1, December 2008

Is changed to:

7th Edition, Rev. 2, July 2010

1. Introduction

The following section:

This edition of the Requirements was approved by the VinduesIndustrien Technical Committee in December 2008.

Is changed to:

This edition of the Requirements was approved by the VinduesIndustrien Technical Committee in July 2010.

2. General requirements on the manufacturer

The headline:

2.9 Consumer safeguards

Is changed to:

2.9 Consumer safeguards in Denmark

The following section:

- Claims are dealt with by Byggeriets Ankenævn, the Appeals Board established by the Danish Consumer Council, the National House Owners Association and the Danish Construction Association. Defects are rectified in accordance with the findings of the Board.

Is added:

- Claims are dealt with by Byggeriets Ankenævn - the Appeals Board established by the Danish Consumer Council, the National House Owners Association and the Danish Construction Association - or by an equivalent approved appeals board. Defects are rectified in accordance with the findings of the Board.

The following section:

- ~~The warranty scheme must provide cover of up to DKK 1,000,000 incl. VAT per company, and DKK 5,000,000 incl. VAT per calendar year.~~

Is changed to:

- The warranty must provide cover of up to DKK 1,000,000 incl. VAT per company per calendar year for 5 years.
- If the company subscribes to a joint warranty scheme, this scheme must provide cover of at least DKK 5,000,000 incl. VAT per calendar year for 5 years.

5. Timber windows and doors

5.2 Thermal performance

The following section:

Documentation in accordance with DS 418 or DS/EN 10077 parts 1 and 2 must be provided for all data concerning the thermal performance of the products.

~~For each product system, documentation must be provided for a 1230x1480 mm single light fixed and opening casement window using the manufacturer's standard glazing unit.~~

~~For external doors, values must be given for a 1230 x 2180 mm standard size panelled door with two standard glazed lights and a mid-rail and a 1230 x 2180 mm flush door.~~

~~A standard glazing unit is defined as the most commonly used glazing unit in the product system in question.~~

~~If requested by a customer, the company must provide information about the U-value (W/m²K) and the proportion of glass ($A_{\text{glazing unit}}/A_{\text{window}}$) of the windows and/or external doors in question as well as the total light transmittance (LT) and solar energy transmittance (g_g) of the glazing unit in accordance with the Danish and European standards applicable at the time, cf. for example Instruction No. 213 from The Danish Building Research Institute ("SBI Anvisning 213").~~

The temperature of the interior surfaces of the unit must not be less than ~~8.5° C~~ provided there is a room temperature of 20° C and an external temperature of 0° C. This can be documented via calculations according to DS/EN ISO 10077-2.

The above requirements regarding the minimum temperature of interior surfaces do not apply to window and door handles, lock cylinders and door cills.

Note:

~~The minimum temperature of 8.5° C mentioned above means that condensation will only occur when the relative humidity of the air in the room exceeds 48 %. This is based on a room temperature of 20°C and an outside temperature of 0°C.~~

~~For advice and guidance on indoor climate and ventilation of the dwelling, please consult your national asthma allergy association as well as Vinduesindustriens Installer and User Manual.~~

Is changed to:

Documentation in accordance with DS 418 or DS/EN ISO 10077 parts 1 and 2 must be provided for all data concerning the thermal performance of the products.

For each product system, documentation must be provided for a 1.23 x 1.48m single-light opening casement window.

For external doors, values must be given for a panelled door with two standard glazed lights ("glazing units") and a mid-rail as well as for a flush door. Both doors must be in the standard size of 1.23 x 2.18m.

Glazing unit data must apply to the company's standard glazing unit defined as the most commonly used glazing unit in the product system in question.

The temperature of the interior surfaces of the unit must not be less than 9.3° C provided there is a room temperature of 20° C and an external temperature of 0° C. This can be documented via calculations according to DS/EN ISO 10077-2.

In addition to the surfaces of casement and frame, the interior surfaces of the unit also include the sealed glazing unit, glazing gaskets and weather seal between frame and casement. However, the surface of weather seals is not included if air access to the weather seal is via a gap with a width of 4 mm or less and a depth of 5 mm or more.

The above requirements regarding the minimum temperature of interior surfaces do not apply to window and door handles, lock cylinders and door sills.

For each delivery of windows and external doors the company must additionally provide all the energy performance data for individual units which are required to calculate the overall energy performance of the building project concerned.

A window system may be energy labelled according to energy classes as listed in Annex 18, provided there is a final agreement with Energistyrelsen (the Danish Energy Board).

5.3 Timber material

Hardwood:

In the following section

- Timber preservative treatment must be carried out in accordance with the general requirements listed under 5.5.1

Is added:

(with the exception of door sills where alternative preservatives/methods are permitted).

Spruce:

After the following section:

- Application of base coat and surface treatment must conform with treatment systems 1, 2 or 2 ØKO - cf. 5.5.2.

Is added:

- Heat treated spruce, which can be classified as Class 2 (permanent) under DS/EN 350-2, may be used for glazing beads. The heat treatment may count as the base treatment.

Pine:

After the following section:

- Application of base coat and surface treatment must conform with treatment systems 1, 2 or 2 ØKO - cf. 5.5.2.

Is added:

- Heat treated pine, which can be classified as Class 2 (permanent) under DS/EN 350-2, may be used for glazing beads. The heat treatment may count as the base treatment.

Requirements for the proportion of heartwood in pine:

The following section

In units with coupled casements the heartwood proportion requirements do not apply to internal casements.

Is added:

Units with laminated curved sections with a laminate thickness of less than 6 mm are exempt from the heartwood proportion requirement.

5.3.5 Finger joints

Inspection and testing:

The following section:

~~Glue breaks may only constitute 20 % of the break surface.~~

Is changed to:

Testing is conducted as shown in Annex 17, and the tensile strength must meet the requirements listed in the Annex.

5.3.6 Lamination

The following section:

When bonding with thermoplastic wood adhesives the adhesive must be classified as Class D4 in accordance with DS/EN 204 (tested in accordance with DS/EN 205).

Is added:

and the requirements regarding resistance and strength at 80° C in accordance with DS/EN 14257.

Performance requirements:

The following section:

Moisture content of timber and laminates ready for bonding: $12 \pm 2\%$.

Is added:

The thickness of the outermost laminate on weather-exposed surfaces must be at least 6 mm.

External testing:

The following section:

At the external inspection, 6 laminated profiles are selected from each bonding process line. From each of these profiles, a 600 mm long sample is cut and sent for testing at an accredited laboratory.

From each of these 600 mm long samples the laboratory will cut 3 test samples, each 75 mm in length, to use for delamination testing in accordance with DS/EN 391 as well as 3 test samples for the testing of glue line strength in accordance with DS/EN 392.

Is changed to:

At the external inspection, 3 laminated profiles are selected from each bonding process line. From each of these profiles, a 600 mm long sample is cut and sent for testing at an accredited laboratory.

From each of these 600 mm long samples the laboratory will cut 3 test samples, each 75 mm in length, to use for delamination testing in accordance with DS/EN 391.

The following section is deleted:

Testing glue line strength:

~~The test is conducted as a shear test in accordance with DS/EN 392, completing tests on 3 test samples from each of the 600 mm long samples received.~~

~~**Performance requirements:**~~

~~Glue line breaking stress must be at least 6N/mm^2 as an average for the test samples from the same 600 mm sample.~~

Requirements for external inspections:

The following section:

In the case of other manufacturers of laminated profiles who act as suppliers to window manufacturers affiliated to the DVC, external inspections must be conducted by an impartial body approved by VinduesIndustrien.

Is added:

In the case of other manufacturers of laminated profiles, including manufacturers of curved sections, who act as suppliers to window manufacturers affiliated to the DVC, external inspections must be conducted by an impartial body approved by VinduesIndustrien.

5.4.2 Design:

The following section:

~~Every unit must be designed to prevent rainwater or condensate being retained and/or absorbed by the wood. Water must be removed quickly by drainage or ventilation.~~

~~By way of example, outward opening windows, hatches and doors must incorporate a sloping cill with a slope of at least 7°. The casement bottom rail must incorporate a drip groove. The free gap between casement bottom rail and cill must be sufficiently large at the exterior face to prevent droplets spanning it, min. 8 mm. Frame jamb and head and casement jambs should incorporate water grooves.~~

~~Wooden cills in inward opening windows, doors etc. must have an outward slope of at least 7° on the upward facing side and incorporate a water stopping upstand positioned so far back that water ingress at side rebates is intercepted and directed back out into the open.~~

~~Door frame cills must be manufactured in hardwood or similar hard wearing material. Tilt and turn doors may be exempted from this requirement.~~

~~Cills of materials other than wood must not cause condensation on the internal face under normal conditions of use in habitable rooms.~~

~~With the exception of glazing bars where the dimension of the cross-section makes it impossible to comply, all glass bottom rebates must incorporate an outward slope of at least 7°.~~

~~The transom in transom and mullion windows with opening casements (so called "Dannebrogsvinduer" where transom and mullion form a stylized cross as in the Danish flag) and other similar windows with opening or fixed casements either side of a transom must have a integral machined or added drip groove projecting horizontally by at least 15 mm beyond the external face of the frame.~~

~~Windows with coupled casements must have drip grooves on both transom and head. When combined with a drip groove in the transom/underside of the frame head, a rebate with an outward slope on the casement head may obviate the drip groove requirement.~~

~~The cill end of the fastener slot must not cause increased water absorption.~~

~~Inward opening doors must always have a drip groove at the lower edge of the door leaf.~~

~~At the jamb and head, the distance between frame and casement (clearance around the casement) must be adapted to the size of the window/door, the hardware system etc. It may be necessary to carry out adjustment when fitting in the building but the unit must be designed for the clearance between frame and casement to be as uniform as possible on all four sides when seen from the inside. Variations in distance should not exceed around 1.5 mm without justification.~~

~~Strike plates in cill rebates must not cause the wood of the frame to absorb water. By way of example, strike plates which are partly inset into the wood must have a waterproof bottom.~~

~~Other equally well functioning solutions to the above points may be approved by special agreement on the basis of drawings and/or models. Constructions and designs which deviate substantially from what is known and tried in practice will normally require submission of an impartial test report substantiating that the relevant functional requirements have been met. Units for functional testing must be selected from the first mass production.~~

~~Patio units whether pre-insulated or designed for insulation must be constructed according to the two-stage principle or another method approved from a moisture control point of view.~~

~~The two stage principle involves establishing a breather membrane stopping the wind on the cold side of the insulation. The design must incorporate an effectively vented cavity between the breather membrane and the outer rain screen.~~

~~If the unit is supplied pre-insulated, the vapour barrier on the warm side must form part of the delivery. Care must be taken to ensure effective airtightness of the unit.~~

Is changed to:

As a starting point, windows and external door units must be constructed so as to meet the general or particular requirements of the delivery regarding strength/stiffness, air permeability and watertightness, cf. point 5.0 - Dimensioning and weathertightness.

Furthermore, the construction details must be designed in a way which ensures that the materials used do not break down or degrade.

Timber units are subject to the following requirements:

In outward opening units the bottom rail rebate of frames and transoms must have an outward slope of at least 7°, while at the external face there must be a gap of at least 8 mm between the sill and the casement. The bottom rail of casements and doors must incorporate a drip groove.

In inward opening units the upward facing side of sills and transoms must have an outward slope of at least 7°, with an upstand/drainage rail at the wet line to prevent water ingress.

Inward opening doors must have a drip sill at the lower edge of door leaves / bottom rails.

The sill of external doors must be manufactured in or covered with a hard-wearing material.

Horizontal posts above casements must have a drip sill draining the water at least 5 mm beyond the external plane of the unit. Alternatively, a seal may be fitted between post and casement. Units with coupled casements are also required to have a drip sill/seal to the head.

No traces or grooves likely to cause water to collect are permitted in horizontal profiles exposed to driving rain.

When seen from the inside, there must be a uniform gap between the frame and the casement. The variation in the gap must not exceed 2 mm in relation to the nominal gap.

In addition, the construction and choice of materials must ensure that the units meet the requirements listed under point 5.2 Thermal performance.

5.5 Timber preservative treatment

5.5.1 General

The following section:

~~Impregnated profiles which are machined or cut to length after preservative treatment, e.g. standard profiles cut to fixed sizes, must be impregnated again by dipping for at least 30 minutes in the original solution at a minimum depth of 100 mm of liquid.~~

Is changed to:

Impregnated profiles where the preservative treatment has not penetrated the timber fully must be reimpregnated after machining or cutting to length, e.g. standard profiles cut to fixed sizes. This is done by dipping the profiles in the original solution for at least 30 minutes at a minimum depth of 100 mm of liquid.

5.5.2 Treatment systems for softwood:

Treatment system 1:

The following section:

~~Application of base coat using solvent based impregnation, usually in the form of vacuum pressure impregnation.~~

Absorption must meet the requirements regarding critical value contained in DS/EN 599-1.

~~Penetration must meet the requirements for Class NP3 in DS/EN 351-1 (i.e. at least 6 mm lateral penetration in sapwood—corresponding to Nordisk Træbeskyttelsesråd (Nordic Wood Preservation Council) NTR Class B).~~

The preservative used must provide effective protection against fungal attack and meet the performance requirements when testing in accordance with Hazard Class 3, cf. 6.3 paragraph b) and Table 3 of DS/EN 599-1 including blue stain testing. ~~The preservative must be included in the NTR list of approved Class B preservatives.~~

Is changed to:

The base coat may consist of a solvent or CO₂ based preservative with the application method employing vacuum or supercritical impregnation.

Absorption must meet the requirements regarding critical value contained in DS/EN 599-1.

Penetration must meet the requirements for Class NP3 in DS/EN 351-1 (i.e. at least 6 mm lateral penetration in sapwood).

The preservative used must provide effective protection against fungal attack and meet the performance requirements when testing in accordance with use class 3, cf. 6.3 paragraph b) and Table 3 of DS/EN 599-1 including blue stain testing.

Treatment system 2:

The following section:

~~Application of base coat using a preservative, which is usually applied by vacuum treatment.~~

Is changed to:

The base coat **may consist** of a solvent or CO₂ based preservative with the application method employing vacuum or **supercritical impregnation**.

5.5.3 Treatment systems for hardwood:

Treatment system 3: (transparent)

The following section:

Surface treatment may be semi-transparent or transparent, including oil treatment, cf. 4.2.2 of DS/EN 927-1.

is added:

When treating door sills, alternative preservatives/methods are permitted.

5.8.2 Fitting

The following section:

At the jamb and head, the distance between frame and casement (clearance around the casement) must be adapted to the size of the window/door, the hardware system etc. It may be necessary to carry out adjustment when installing in the building but the unit must be designed for the distance between frame and casement to be as uniform as possible on all four sides when seen from the inside.

~~Variations in distance should not exceed around 1.5 mm without justification.~~

Is changed to:

At the jamb and head, the gap between the frame and the casement (clearance around the casement) must be adapted to the size of the window/door, the hardware system etc. It may be necessary to carry out adjustment when installing in the building but the unit must be designed for the gap between the frame and the casement to be as uniform as possible on all four sides when seen from the inside.

Variation in the gap must not exceed 2 mm in relation to the nominal gap.

5.9 Glass/panels and installation of glazing units:

5.9.1 Glass and panels:

The following section:

~~Sealed glazing units must be manufactured to EN 1279 and the manufacturer of the units be affiliated to an external, accredited certification scheme meeting the requirements of DS/SBC 1279 or similar special requirements.~~

Is changed to:

Sealed glazing units must be manufactured to DS/EN 1279 and the manufacturer of the units be affiliated to an external certification scheme, **for example** DS/SBC 1279, **ift Rosenheim** or similar **schemes**.

The following section:

~~As regards board edges and edges resulting from moulding/profiling, corners must be rounded with a radius of at least 1.5 mm.~~

Is changed to:

All edges (also non-visible ones) resulting from grooving/moulding/profiling, must have their corners rounded to a minimum radius of 1.5 mm; this also applies where part of the original surface of the board has been cut away. See example in Annex 16.

5.9.2 Installation of glazing units:

The following section:

~~Sealed glazing units may be fitted in accordance with Glasindustrien's installation instructions applicable at the time.~~

~~Installation systems which deviate from these instructions may be applied provided they have been approved by Glasindustrien and the glazing units are covered by the warranty scheme operated by Glasindustrien.~~

~~Companies certified under VinduesIndustrien's Technical Requirements must be in possession of a written agreement with the glazing unit manufacturer detailing his glazing unit installation system(s) and containing full information about any deviation from Glasindustrien's installation instructions.~~

The agreement between the window manufacturer and the glazing unit supplier must further contain the warranty terms applicable to the glazing units supplied.

In connection with product inspection visits, defects in the installation of glazing units are rated in accordance with Annex 8 point 5.9 while taking into account any deviating requirements under the agreement between the window manufacturer and the glazing unit supplier.

Is changed to:

Sealed glazing units must be fitted in accordance with the sealed glazing unit manufacturer's instructions.

Companies certified under VinduesIndustrien's Technical Requirements must be in possession of a written agreement with the glazing unit manufacturer detailing his glazing unit installation system(s).

The agreement between the window manufacturer and the glazing unit supplier must further contain the warranty terms applicable to the glazing units supplied.

In connection with product inspection visits, defects in the installation of glazing units are rated in accordance with Annex 8 point 5.9 while taking into account any deviating requirements under the agreement between the window manufacturer and the glazing unit supplier.

6.2 Thermal performance:

The following section:

~~Documentation in accordance with DS 418 or DS/EN 10077 part 1 and 2 must be provided for all data concerning the thermal performance of the products.~~

~~For each product system, documentation must be provided for a 1230 x 1480 mm single light fixed and opening casement window using the manufacturer's standard glazing unit.~~

~~For external doors, values must be given for a 1230 x 2180 mm standard size panelled door with two standard glazed lights and a mid-rail and a 1230 x 2180 mm flush door.~~

~~A standard glazing unit is defined as the most commonly used glazing unit in the product system in question.~~

~~If requested by a customer, the company must provide information about the U value (W/m²K) and the proportion of glass ($A_{\text{glazing unit}}/A_{\text{window}}$) of the windows and/or external doors in question as well as the total light transmittance (LT) and solar energy transmittance (g_g) of the glazing unit in accordance with the Danish and European standards applicable at the time, cf. for example Instruction No. 213 from The Danish Building Research Institute ("SBI Anvisning 213").~~

The temperature of the interior surfaces of the unit must not be less than 8.5°C provided there is a room temperature of 20°C and an external temperature of 0°C. This can be documented via calculations according to DS/EN ISO 10077-2.

In addition to the surfaces of casement and frame, the interior surfaces of the unit also include the sealed glazing unit, glazing gaskets and weather seal between frame and casement. However, the surface of weather seals is not included if air access to the weather seal is via a gap with a width of 4 mm or less and a depth of 5 mm or more.

The above requirements regarding the minimum temperature of interior surfaces do not apply to window and door handles, lock cylinders and door cills.

Note:

~~The minimum temperature of 8.5°C mentioned above means that condensation will only occur when the relative humidity of the air in the room exceeds 48 %. This is based on a room temperature of 20°C and an outside temperature of 0°C.~~

~~For advice and guidance on indoor climate and ventilation of the dwelling, please consult your national asthma allergy association as well as Vinduesindustriens Installer and User Manual.~~

Is changed to:

Documentation in accordance with DS 418 or DS/EN ISO 10077 part 1 and 2 must be provided for all data concerning the thermal performance of the products.

For each product system, documentation must be provided for a 1.23 x 1.48m single-light opening casement window.

For external doors, values must be given for a panelled door with two standard glazed lights ("glazing units") and a mid-rail as well as for a flush door. Both doors must be in the standard size of 1.23 x 2.18m.

Glazing unit data must apply to the company's standard glazing unit defined as the most commonly used glazing unit in the product system in question.

The temperature of the interior surfaces of the unit must not be less than 9.3°C provided there is a room temperature of 20°C and an external temperature of 0°C. This can be documented via calculations according to DS/EN ISO 10077-2.

In addition to the surfaces of casement and frame, the interior surfaces of the unit also include the sealed glazing unit, glazing gaskets and weather seal between frame and casement. However, the surface of weather seals is not included if air access to the weather seal is via a gap with a width of 4 mm or less and a depth of 5 mm or more.

The above requirements regarding the minimum temperature of interior surfaces do not apply to window and door handles, lock cylinders and door sills.

For each delivery of windows and external doors the company must additionally provide all the energy performance data for individual units which are required to calculate the overall energy performance of the building project concerned.

A window system may be energy labelled according to energy classes as listed in Annex 18, provided there is a final agreement with Energistyrelsen (the Danish Energy Board).

6.7.2 Fitting

The following section:

At the jamb and head, the distance between frame and casement (clearance around the casement) must be adapted to the size of the window/door, the hardware system etc. It may be necessary to carry out adjustment when installing in the building but the unit must be designed for the distance between frame and casement to be as uniform as possible on all four sides when seen from the inside.

~~Variations in distance should not exceed around 1.5 mm without justification.~~

Is changed to:

At the jamb and head, the gap between the frame and the casement (clearance around the casement) must be adapted to the size of the window/door, the hardware system etc. It may be necessary to carry out adjustment when installing in the building but the unit must be designed for the gap between the frame and the casement to be as uniform as possible on all four sides when seen from the inside.

Variation in the gap must not exceed 2 mm in relation to the nominal gap.

6.8 Glass/panels and installation of glazing units:

6.8.1 Glass and panels:

The following section:

~~Sealed glazing units must be manufactured to EN 1279 and the manufacturer of the units be affiliated to an external, accredited certification scheme meeting the requirements of DS/SBC 1279 or similar special requirements.~~

Is changed to:

Sealed glazing units must be manufactured to DS/EN 1279 and the manufacturer of the units be affiliated to an external certification scheme, for example DS/SBC 1279, **ift Rosenheim** or similar schemes.

The following section:

~~As regards board edges and edges resulting from moulding/profiling, corners must be rounded with a radius of at least 1.5 mm.~~

Is changed to:

All edges (also non-visible ones) resulting from grooving/moulding/profiling, must have their corners rounded to a minimum radius of 1.5 mm; this also applies where part of the original surface of the board has been cut away. See example in Annex 16.

6.8.2 Installation of glazing units:

The following section:

~~Sealed glazing units may be fitted in accordance with Glasindustrien's installation instructions applicable at the time.~~

~~Installation systems which deviate from these instructions may be applied provided they have been approved by Glasindustrien and the glazing units are covered by the warranty scheme operated by Glasindustrien.~~

~~Companies certified under VinduesIndustrien's Technical Requirements must be in possession of a written agreement with the glazing unit manufacturer detailing his glazing unit installation system(s) and containing full information about any deviation from Glasindustrien's installation instructions.~~

Is changed to:

Sealed glazing units must be fitted in accordance with the sealed glazing unit manufacturer's instructions.

Companies certified under VinduesIndustrien's Technical Requirements must be in possession of a written agreement with the glazing unit **manufacturer detailing** his glazing unit installation system(s).

7.2 Thermal performance:

The following section:

Documentation in accordance with DS 418 or DS/EN 10077 part 1 and 2 must be provided for all data concerning the thermal performance of the products.

~~For each product system, documentation must be provided for a 1230 x 1480 mm single light fixed and opening casement window using the manufacturer's standard glazing unit.~~

~~For external doors, values must given for a 1230 x 2180 mm standard size panelled door with two standard glazed lights and a mid rail and a 1230 x 2180 mm flush door.~~

~~A standard glazing unit is defined as the most commonly used glazing unit in the product system in question.~~

~~If requested by a customer, the company must provide information about the U-value (W/m²K) and the proportion of glass ($A_{\text{glazing unit}}/A_{\text{window}}$) of the windows and/or external doors in question as well as the total light transmittance (LT) and solar energy transmittance (g_g) of the glazing unit in accordance with the Danish and European standards applicable at the time, cf. for example Instruction No. 213 from The Danish Building Research Institute ("SBI Anvisning 213").~~

The temperature of the interior surfaces of the unit must not be less than **8.5°C** provided there is a room temperature of 20°C and an external temperature of 0°C. This can be documented via calculations according to DS/EN ISO 10077-2.

In addition to the surfaces of casement and frame, the interior surfaces of the unit also include the sealed unit, glazing gaskets and weather seal between frame and casement. However, the surface of weather seals is not included if air access to the weather seal is via a gap with a width of 4 mm or less and a depth of 5 mm or more.

The above requirements regarding the minimum temperature of interior surfaces do not apply to window and door handles, lock cylinders and door cills.

Note:

~~The minimum temperature of 8.5°C mentioned above means that condensation will only occur when the relative~~

~~humidity of the air in the room exceeds 48 %. This is based on a room temperature of 20°C and an outside temperature of 0°C.~~

~~For advice and guidance on indoor climate and ventilation of the dwelling, please consult your national asthma-allergy association as well as VinduesIndustrien's Installer and User Manual.~~

Is changed to:

Documentation in accordance with DS 418 or DS/EN ISO 10077 part 1 and 2 must be provided for all data concerning the thermal performance of the products.

For each product system, documentation must be provided for a 1.23 x 1.48m single-light opening casement window.

For external doors, values must be given for a panelled door with two standard glazed lights ("glazing units") and a mid-rail as well as for a flush door. Both doors must be in the standard size of 1.23 x 2.18m.

Glazing unit data must apply to the company's standard glazing unit defined as the most commonly used glazing unit in the product system in question.

The temperature of the interior surfaces of the unit must not be less than 9.3° C provided there is a room temperature of 20°C and an external temperature of 0°C. This can be documented via calculations according to DS/EN ISO 10077-2.

In addition to the surfaces of casement and frame, the interior surfaces of the unit also include the sealed unit, glazing gaskets and weather seal between frame and casement. However, the surface of weather seals is not included if air access to the weather seal is via a gap with a width of 4 mm or less and a depth of 5 mm or more.

The above requirements regarding the minimum temperature of interior surfaces do not apply to window and door handles, lock cylinders and door sills.

For each delivery of windows and external doors the company must additionally provide all the energy performance data for individual units which are required to calculate the overall energy performance of the building project concerned.

A window system may be energy labelled according to energy classes as listed in Annex 18, provided there is a final agreement with Energistyrelsen (the Danish Energy Board).

7.5 Surface treatment:

7.5.1 Coating of aluminium:

The following section:

- Even
~~with a smooth and opaque surface with a max. of 2 defects in the surface per running metre of profile or per m² (sheet material). Defects may be in the form of impurities or pores with a diameter of less than 1 mm.~~

Is changed and added:

- Even and
- have a smooth and opaque surface.

Impurities in the paint are rated in accordance with Annex 8, point 7.5.

7.7.2 Fitting of hardware:

The following section:

... to be as uniform as possible on all four sides when seen from the inside.

~~Variations in distance should not exceed around 1.5 mm without justification.~~

Is added:

... to be as uniform as possible on all four sides when seen from the inside.

Variation in the gap must not exceed 2 mm in relation to the nominal gap.

7.8 Glass/panels and installation of glazing units:

7.8.1 Glass and panels:

The following section:

~~Sealed glazing units must be manufactured to EN 1279 and the manufacturer of the units be affiliated to an external, accredited certification scheme meeting the requirements of DS/SBC 1279 or similar special requirements.~~

Is changed to:

Sealed glazing units must be manufactured to DS/EN 1279 and the manufacturer of the units be affiliated to an external certification scheme, **for example DS/SBC 1279, ift Rosenheim** or similar schemes.

The following section:

~~As regards board edges and edges resulting from moulding/profiling, corners must be rounded with a radius of at least 1.5 mm.~~

Is changed to:

All edges (also non-visible ones) resulting from grooving/moulding/profiling, must have their corners rounded to a minimum radius of 1.5 mm; this also applies where part of the original surface of the board has been cut away. See example in Annex 16.

7.8.2 Installation of glazing units:

The following section:

~~Sealed glazing units may be fitted in accordance with Glasindustrien's installation instructions applicable at the time.~~

~~Installation systems which deviate from these instructions may be applied provided they have been approved by Glasindustrien and the glazing units are covered by the warranty scheme operated by Glasindustrien.~~

~~Companies certified under VinduesIndustrien's Technical Requirements must be in possession of a written agreement with the glazing unit manufacturer detailing his glazing unit installation system(s) and containing full information about any deviation from Glasindustrien's installation instructions.~~

Is changed to:

Sealed glazing units must be fitted in accordance with the sealed glazing unit manufacturer's instructions.

Companies certified under VinduesIndustrien's Technical Requirements must be in possession of a written agreement with the glazing unit **manufacturer detailing** his glazing unit installation system(s).

8. Timber/aluminium windows and doors

8.2 Thermal performance:

The following section:

~~Documentation in accordance with DS 418 or DS/EN 10077 part 1 and 2 must be provided for all data concerning the thermal performance of the products.~~

~~For each product system, documentation must be provided for a 1230 x 1480 mm single light fixed and opening casement window using the manufacturer's standard glazing unit.~~

~~For external doors, values must be given for a 1230 x 2180 mm standard size panelled door with two standard glazed lights and a mid-rail and a 1230 x 2180 mm flush door.~~

~~A standard glazing unit is defined as the most commonly used glazing unit in the product system in question.~~

~~If requested by a customer, the company must provide information about the U-value (W/m²K) and the proportion of glass ($A_{\text{glazing unit}}/A_{\text{window}}$) of the windows or external doors in question as well as the total light transmittance (LT) and solar energy transmittance (g_g) of the glazing unit in accordance with the Danish and European standards applicable at the time, cf. for example Instruction No. 213 from The Danish Building Research Institute ("SBI Anvisning 213").~~

The temperature of the interior surfaces of the unit must not be less than 8.5°C provided there is a room temperature of 20°C and an external temperature of 0°C. This can be documented via calculations according to DS/EN ISO 10077-2.

In addition to the surfaces of casement and frame, the interior surfaces of the unit also include the sealed unit, glazing gaskets and weather seal between frame and casement. However, the surface of weather seals is not included if air access to the weather seal is via a gap with a width of 4 mm or less and a depth of 5 mm or more.

The above requirements regarding the minimum temperature of interior surfaces do not apply to window and door handles, lock cylinders and door cills.

Note:

~~The minimum temperature of 8.5°C mentioned above means that condensation will only occur when the relative humidity of the air in the room exceeds 48 %. This is based on a room temperature of 20°C and an outside temperature of 0°C.~~

~~For advice and guidance on indoor climate and ventilation of the dwelling, please consult your national asthma allergy association as well as VinduesIndustrien's Installer and User Manual.~~

Is changed to:

Documentation in accordance with DS 418 or DS/EN ISO 10077 part 1 and 2 must be provided for all data concerning the thermal performance of the products.

For each product system, documentation must be provided for a 1.23 x 1.48m single-light opening casement window.

For external doors, values must be given for a panelled door with two standard glazed lights ("glazing units") and a mid-rail as well as for a flush door. Both doors must be in the standard size of 1.23 x 2.18m.

Glazing unit data must apply to the company's standard glazing unit defined as the most commonly used glazing unit in the product system in question.

The temperature of the interior surfaces of the unit must not be less than 9.3° C provided there is a room temperature of 20°C and an external temperature of 0°C. This can be documented via calculations according to DS/EN ISO 10077-2.

In addition to the surfaces of casement and frame, the interior surfaces of the unit also include the sealed unit, glazing gaskets and weather seal between frame and casement. However, the surface of weather seals is not included if air access to the weather seal is via a gap with a width of 4 mm or less and a depth of 5 mm or more.

The above requirements regarding the minimum temperature of interior surfaces do not apply to window and door handles, lock cylinders and door sills.

For each delivery of windows and external doors the company must additionally provide all the energy performance data for individual units which are required to calculate the overall energy performance of the building project concerned.

A window system may be energy labelled according to energy classes as listed in Annex 18, provided there is a final agreement with Energistyrelsen (the Danish Energy Board).

8.3 Timber material

Hardwood

In the following section:

- Timber preservative treatment must be carried out in accordance with the general requirements listed under 5.5.15.5.1

Is added:

(with the exception of door sills where alternative preservatives/methods are permitted).

8.3.5 Finger joints

Inspection and testing:

The following section:

~~Glue breaks may only constitute 20 % of the break surface.~~

Is changed to:

Testing is conducted as shown in Annex 17, and the tensile strength must meet the requirements listed in the Annex.

8.3.6 Lamination

In the following section:

In laminated profiles, which receive a base coat and surface treatment in accordance with treatment systems ~~1, 2 or 5~~, each laminate in the hatched areas of Annex 10 illustrations must have a heartwood proportion of at least 60 %.

~~In profiles treated in accordance with treatment system 2 ØKO, each laminate in the hatched areas of Annex 10 illustrations must have a heartwood proportion of at least 90%.~~

Is changed to:

In laminated profiles, which receive a base coat and surface treatment in accordance with treatment system 5, each laminate in the hatched areas of Annex 10 illustrations must have a heartwood proportion of at least 60%.

The following section:

When bonding with thermoplastic wood adhesives the adhesive must be classified as Class D4 in accordance with DS/EN 204 (tested in accordance with DS/EN 205).

Is added:

The adhesive must also meet the requirements of DS/EN 14257 regarding resistance and strength at 80° C.

Performance requirements:

The following section:

Moisture content of timber and laminates ready for bonding: 12 ± 2 %.

Is added:

The thickness of the outermost laminate on weather-exposed surfaces must be at least 6 mm.

External inspection:

The following section:

At the external inspection, ~~6 laminated profiles~~ are selected from each bonding process line. From each of these profiles, a 600 mm long sample is cut and sent for testing at an accredited laboratory.

From each of these 600 mm long samples the laboratory will cut 3 test samples, each 75 mm in length, to use for delamination testing in accordance with DS/EN 391 ~~as well as 3 test samples for the testing of glue line strength in accordance with DS/EN 392.~~

Is changed to:

At the external inspection, **3 laminated profiles** are selected from each bonding process line. From each of these profiles, a 600 mm long sample is cut and sent for testing at an accredited laboratory.

The following section is deleted:

~~**Testing glue line strength:**~~

~~The test is conducted as a shear test in accordance with DS/EN 392, completing tests on 3 test samples from each of the 600 mm long samples received.~~

~~*Performance requirements:*~~

~~Glue line breaking stress must be at least 6N/mm² as an average for the test samples from the same 600 mm sample.~~

Requirements for external inspections:

In the following section:

In the case of other manufacturers of laminated profiles who act as suppliers to window manufacturers affiliated to the DVC, external inspections must be conducted by an impartial body approved by VinduesIndustrien.

Is added:

In the case of other manufacturers of laminated profiles, **including manufacturers of curved sections**, who act as suppliers to window manufacturers affiliated to the DVC, external inspections must be conducted by an impartial body approved by VinduesIndustrien.

8.3.9 Type testing:

Test rig and setup

The following section:

At the handle side, the frame is blocked at fastening points and fixed at the same points using frame screws.

Is added:

If fitting instructions are available for the type of unit in question, and these instructions prescribe that units must be fixed using a rebate construction whatever the installation circumstances, type testing must also adhere to these instructions (i.e. the unit should be installed in the test rig without corbelling the rebate construction).

Initial recording

The following section is deleted:

~~The tightness of all screws in hinges fixed to synthetic materials is measured with a torque screw driver and the values recorded.~~

Recording of test results

The following section:

~~After load step 400 N (for doors: 600 N), 30° opening, climatic conditions 2 the tightness of screws in hinges fixed to synthetic materials is recorded.~~

Is changed to:

After load step 400 N, (for doors: load step 600 N), 30° opening, climatic conditions 2, a moment load of 200 Ncm is applied to those screws in hinges which are anchored in synthetic materials. This moment load is maintained for 15 seconds per screw.

Approval criteria

The following section:

The materials and construction are approved if the values recorded after load step 400 meet the following criteria:

Is added:

The materials and construction are approved if the values recorded after load step 400 (for doors: load step 600 N) meet the following criteria:

The following section:

During safety testing, the final 600 N load step (for doors: 800 N) must not cause failure where the synthetic/alu frame rebate is joined to the timber section, nor failure in hinges, their fixing or in casement corner joints.

Is added:

During the application of the 200 Ncm moment load, after a potential initial turning, the screw is not allowed any further turning in the following 15 seconds.

Note:

The last-mentioned criterion above is a normative requirement.

Alternatively, special screws or other fixing methods may be used, each of which must be documented and approved by VinduesIndustrien's Technical Committee.

During safety testing, the final 600 N load step (for doors: 800 N) must not cause failure where the synthetic/alu frame rebate is joined to the timber section, nor failure in hinges, their fixing or in casement corner joints.

8.4.3 Design

The following section:

~~Windows and doors in timber/aluminium are manufactured in accordance with different construction principles but the following applies to all designs:~~

~~The thermal performance (interior surface temperature) must, as a minimum, comply with the requirements in the chapter "Thermal performance".~~

~~Overall, the units must be constructed in a manner which prevents rainwater or condensate being retained.~~

~~Normally, external aluminium components may only be fastened to and supported by the timber section at points or on narrow strips, and the cavity between timber and aluminium components must be vented to the open.~~

~~At the top edge of casements and doors driving rain must be diverted by a drip groove on the frame or by a sealing tape preventing ingress of driving rain between the timber section and aluminium part and stopping water from collecting on the upwards facing side of the timber section.~~

~~In the case of other horizontal timber components driving rain must also be diverted from upwards-facing holes/slots by means of drip grooves or sealing tape between the timber and aluminium part.~~

~~If the width of the upwards facing holes/slot does not exceed 3 mm, the ingress of driving rain may alternatively be prevented by increasing the drained/vented area in the construction below. This may be in the form of a slot which is generally wider at the base than at the top or by drainage slots spaced at a max. distance of 300 mm. In both cases there must be at least 300 mm² more opening at the base than at the top per running metre.~~

~~Horizontal timber components which may be exposed to water ingress must have an outward slope of at least 7° on the upward facing side; there must be no grooves or the like where water can accumulate.~~

~~At the time of manufacture, sufficient drainage holes must be incorporated into cills and casement bottom rails to ensure that any rainwater or condensate can escape to the open.~~

~~The minimum size of drainage holes is ø8 mm or a 5 x 20 mm gap; holes must be located to ensure the removal of all water. The total drainage hole area in timber cill and casement bottom rails must be at least 300 mm² per running metre and for aluminium cill and casement bottom rails at least 200mm² per running metre.~~

~~Inward opening units must have a drip groove or drip rail at their lower edge.~~

~~Construction and fitting of hardware must be sufficiently sturdy to maintain the specified distance (gap) between casement and frame. Apart from the gap at the lower edge variation in the width of the gap should not exceed 1.5 mm.~~

~~Patio units whether pre-insulated or designed for insulation must be constructed according to the two-stage principle or another method approved from a moisture control point of view.~~

~~The two stage principle involves establishing a breather membrane stopping the wind on the cold side of the insulation. The design must incorporate an effectively vented cavity between the breather membrane and the outer rain screen.~~

~~If the unit is supplied pre-insulated, the vapour barrier on the warm side must form part of the delivery. Care must be taken to ensure effective airtightness of the unit.~~

Is changed to:

Window and door units in timber/aluminium are manufactured in accordance with different construction principles. However, all constructions must meet the general or particular requirements

of the delivery regarding the strength/stiffness, air permeability and watertightness of the units, cf. point 8.0 - Dimensioning and weathertightness.

The overall construction must be implemented in a manner which prevents the retention of rainwater or condensate.

Furthermore, the construction details must be designed in such a way that the materials used do not break down or degrade.

Timber/aluminium units are thus subject to the following requirements:

Normally, external aluminium components may only be fastened to and supported by the timber section at points or on narrow strips, and the cavity between timber and aluminium sections must be vented to the air.

At the top edge of casements and frames driving rain must be diverted by a drip sill on the frame or by a sealing tape preventing ingress of driving rain between the timber and aluminium sections and stopping water from collecting on the upwards-facing side of the timber section.

Note:

In the case of other horizontal timber sections, driving rain must also be diverted from upwards-facing slots by means of drip sills or sealing tape between the timber and aluminium sections. Alternatively, the slot must be designed so as to ensure that any driving rain entering it is drained off immediately. This requirement is deemed to have been met if the slot has a width of at least 2 mm over the entire length of the profile, and that contact between the timber and aluminium sections is limited to a few points. This also applies where the height of the aluminium section is increased in relation to the bottom rail rebate.

Horizontal timber components which may be exposed to water ingress must have an outward slope of at least 7° on the upward-facing side; there must be no grooves or the like where water can accumulate.

When seen from the inside, there must be a uniform gap between the frame and the casement. The variation in the gap must not exceed 2 mm in relation to the nominal gap.

In addition, the construction and choice of materials must ensure that the units meet the requirements listed under point 5.2 Thermal performance.

8.5 Timber preservative treatment

8.5.1 General:

The following section:

~~Impregnated profiles which are machined or cut to length after preservative treatment, e.g. standard profiles cut to fixed sizes, must be impregnated again by dipping for at least 30 minutes in the original solution at a minimum depth of 100 mm of liquid.~~

Is changed to:

Impregnated profiles where the preservative treatment has not penetrated the timber fully must be reimpregnated after machining or cutting to length, e.g. standard profiles cut to fixed sizes. This is done by dipping the profiles in the original solution for at least 30 minutes at a minimum depth of 100 mm of liquid.

8.6 Surface treatment of aluminum:

8.6.1 Coating of aluminum:

The following section:

- Even
- with a smooth and opaque surface ~~with a max. of 2 defects in the surface per running metre of profile or per m² (sheet material). Defects may be in the form of impurities or pores with a diameter of less than 1 mm.~~

Is changed to:

- even and
- have a smooth and opaque surface.

Impurities in the paint are rated in accordance with Annex 8, point 7.5.

8.8.2 Fitting of hardware:

The following section:

At the jamb and head, the distance between frame and casement (clearance around the casement) must be adapted to the size of the window/door, the hardware system etc. It may be necessary to carry out adjustment when installing in the building but the unit must be designed for the distance between frame and casement to be as uniform as possible on all four sides when seen from the inside.

~~Variations in distance should not exceed around 1.5 mm without justification.~~

Is changed to:

At the jamb and head, the gap between the frame and the casement (clearance around the casement) must be adapted to the size of the window/door, the hardware system etc. It may be necessary to carry out adjustment when installing in the building but the unit must be designed for the gap between the frame and the casement to be as uniform as possible on all four sides when seen from the inside.

Variation in the gap must not exceed 2 mm in relation to the nominal gap.

8.9 Glass/panels and installation of glazing units:

8.9.1 Glass and panels:

The following section:

~~Sealed glazing units must be manufactured to EN 1279 and the manufacturer of the units be affiliated to an external, accredited certification scheme meeting the requirements of DS/SBC 1279 or similar special requirements.~~

Is changed to:

Sealed glazing units must be manufactured to DS/EN 1279 and the manufacturer of the units be affiliated to an external certification scheme, **for example** DS/SBC 1279, **ift Rosenheim** or similar **schemes**.

The following section:

~~As regards board edges and edges resulting from moulding/profiling, corners must be rounded with a radius of at least 1.5 mm.~~

Is changed to:

All edges (**also non-visible ones**) resulting from **grooving**/moulding/profiling, **must have their corners rounded to a minimum radius of 1.5 mm**; this also applies **where part of the original surface of the board has been cut away**. See example in Annex 16.

8.9.2 Installation of glazing units:

The following section:

~~Sealed glazing units may be fitted in accordance with Glasindustrien's installation instructions applicable at the time.~~

~~Installation systems which deviate from these instructions may be applied provided they have been approved by Glasindustrien and the glazing units are covered by the warranty scheme operated by Glasindustrien.~~

~~Companies certified under VinduesIndustrien's Technical Requirements must be in possession of a written agreement with the glazing unit manufacturer detailing his glazing unit installation system(s) and containing full information about any deviation from Glasindustrien's installation instructions.~~

Is changed to:

Sealed glazing units must be fitted in accordance with the sealed glazing unit manufacturer's instructions.

Companies certified under VinduesIndustrien's Technical Requirements must be in possession of a written agreement with the glazing unit **manufacturer detailing** his glazing unit installation system(s).

9. Annexes at a glance

The following annexes:

- 46 Standards at a glance
- 47 Technical Requirements - current and previous editions

Has got new numbers:

- 19 Standards at a glance
- 20 Technical Requirements - current and previous editions

The following annexes are added:

- 16 Example of wood panels (fibreboard material)
- 17 Testing of finger-joints
- 18 Energy labelling certificate

Annex 8 page 4*The following text is added:*

Non-compliance with section 2.9 Consumer safeguards	Critical defect
Missing or unauthorized label	Immaterial defect per wrongly marked unit
Missing or incomplete in-house inspection of finished goods.	Significant defect per unit in the entire sample
Missing or incomplete in-house inspection of laminates	Significant defect per unit with laminated component(s)
Non-compliance with 5.2 - 8.2, including the use of data for glazing units which are not the standard glazing unit used in the product system.	Significant defect per unit in the entire sample
Missing or incomplete in-house checking of hardwood density	Significant defect per unit manufactured in hardwood

Annex 8 page 21*In the following lines:*

Urenheder og luftpore i malingen:					7.5.1, 8.6.1
meget		✓			
moderat			U		
ubetydelig				B	

The text is changed and added:

Impurities and blisters in paint:					7.5.1, 8.6.1
Up to 2 per metre of profile / 4 per m²					
Defects exceeding Ø 2.0 mm			U		
Defects in the range Ø 0.5 – 2.0 mm: OK					
In excess of 2 per metre of profile / 4 per m²					
Defects exceeding Ø 2.0 mm		V			
Defects in the range Ø 0.5 – 2.0 mm			U		
Irrespective of their number, defects of less than Ø 0.5 mm do not count as defects unless they appear in clusters which make them visible from a distance of 1.5 m.					
As above but in clusters			U		

Annex 8 page 21*In the following lines:*

Skrammer/ridser fra håndtering:					7.5.1, 8.6.1
store		✓			
moderate			U		
ubetydelige				B	

The text is changed:

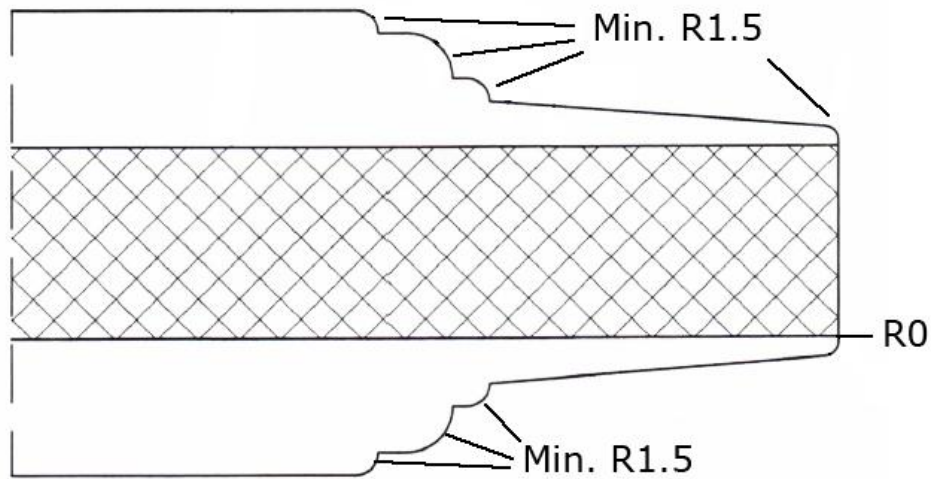
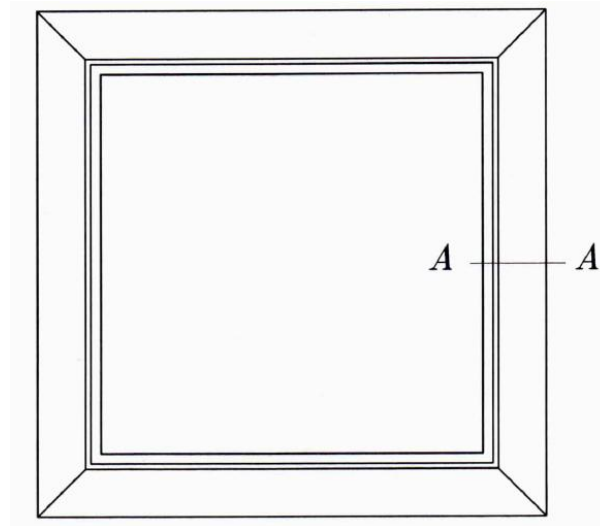
Scratches from handling:					7.5.1, 8.6.1
- penetrating through to the base		V			
- in the paint coat			U		
- removable by polishing				B	

The following annex is added:

Annex 16
Panels made from wood fibreboard

Example of rounding of edges

SECTION A-A



The following annex is added:

Annex 18

Testing of finger-joints

The finger joint must be located within the middle 100 mm of the test sample with the finger profile facing the force.

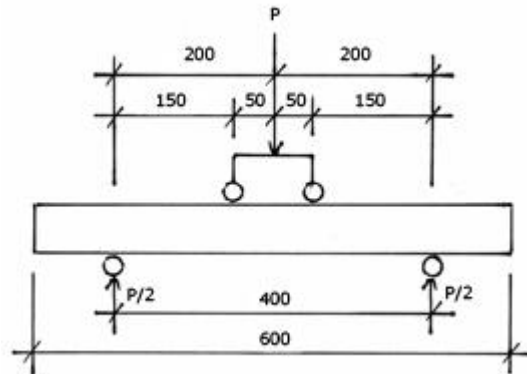
Tensile strength requirements

The tensile strength must meet or exceed a bending stress of 24 N/mm² (24 MPa).

This normative requirement is provisional and will be revised if warranted by new documented experience.

Alternatively, the wood failure percentage must be at least 80 %.

Test configuration - dimensions in mm



The bending stress is calculated using the formula: M = the moment within the middle 100 mm of the test sample W = the moment of resistance of the test sample	$\sigma = \frac{M}{W}$
For the above test configuration, the moment is:	$M = P/2 \times 150 \text{ Nmm}$
For a test sample with a cross-sectional diameter of w x h, the moment of resistance is:	$W = 1/6 \times w \times h^2$
Inserting these values in the above formula for σ produces:	$\sigma = \frac{450 \cdot P}{w \cdot h^2}$
With a required minimum bending stress of 24 N/mm ² , the requirement for the minimum failure load P is calculated as:	$P_{min.} = N$

Example:

For a test sample with a cross-sectional dimension of w x h = 63 x 63 mm, the result is:

$$P_{min.} = \frac{63 \cdot 63^2}{18,8} = 13.300 \text{ N} \sim 1.330 \text{ kg}$$

The weekly test results are entered in a table as shown below:

Test date Week/year	Sample width mm	Sample height mm	Pmin. requirement N (kg)	Registered failure load N(kg)	Wood failure %

The following annex is added:

Bilag 18



Energy Labelling Certificate No. _____ for external windows

Company:	Product system:		Standard glazing unit in product system:	
Is the window system subject to inspection in accordance with: VinduesIndustrien's Technical Requirements for the manufacture of windows and external doors, 7th Edition, rev. 2 – 2010	YES	NO	U _g - Centre pane U-value	W/m ² K
			g _g - Solar energy transmittance	0,xx
			LT - Light transmittance	0,xx
			L _k - Equivalent thermal conductivity - Spacer	W/mK

Energy data for product system

Reference window:		
Single-light opening casement window in the European standard size of 1,23 x 1,48 m		
E _{ref} = 196,40 · g _w – 90,36 · U _w		kWh/m ²
U _w - value		W/m ² K
g _w : Solar energy transmittance - window		0,xx
A _g / A _w : Proportion of glass - window		0,xx

"E_{ref}", the energy contribution calculated for the window, indicates whether the window makes a positive or a negative contribution to the heating of the building.

A positive energy contribution means that, during the heating season, the window contributes energy to the heating of the building.

Energy classes

Energy contribution E _{ref}	Classes	Labelling
0 ≤ E _{ref}		
- 17 ≤ E _{ref} < 0		
- 33 ≤ E _{ref} < - 17		
- 55 ≤ E _{ref} < - 33 *		
- 60 ≤ E _{ref} < - 55 *		
E _{ref} < - 60 *		

The energy contribution is calculated using a reference house and Danish climate data in accordance with a formula published in Annex 6 of BR-10 (Danish Building Regulations 2010).

Therefore, the energy label and the calculated energy contribution is only valid in Denmark.

* Energy classes D – E – F – G are only permitted in buildings which are not subject to legal requirements under BR-10 (Danish Building Regulations 2010)

This is to certify that - the company can calculate the energy data of their products - the company's documentation is inspected annually by an independent body - energy data for the reference window has been documented in test reports from a notified body - glazing bar designs are manufactured in accordance with the control agreement with the Energy Labelling Body.	This certificate is valid until: ____ . ____ . 20 ____
	Date _____ Signed on behalf of the Energy Labelling Body _____

For further information about energy labelling see www.energivinduer.dk

Annex 19 Standards at a glance*The following annex:***Annex 18 Standards at a glance***Gets at new number:***Annex 19 Standards at a glance****Annex 19, Page 1 of 2***The following are changed:*

Standard no.:	Concerning:	Page in Tech. Requirements	Accredited lab.
DS/EN 1026	Windows and doors - Air permeability - Test method	16, 48, 57, 66, 80	TI*
DS/EN 1027	Windows and doors -Watertightness - Test method	16, 48, 57, 66, 80	TI*
DS/EN 12207	Windows and doors - Air permeability - Classification	16, 48, 57, 66	TI*
DS/EN 12208	Windows and doors -Watertightness - Classification	16, 48, 57, 66	TI*
DS/EN 12210	Windows and doors. Resistance to wind load. Classification	16,50,59,68	
DS/EN 350-2	Durability of wood and wood-based products	17, 18, 20, 70	÷
SS 232740	Wood products - Sawn and planed wood of coniferous wood - Moisture content (Trävaror – Sågat och hyvlat virke av barrträ – Fuktkvot)	Annex 11	÷
DS/EN 204	Classification of thermoplastic wood adhesives for non-structural applications	30, 31, 33, 43, 75, 77, 78, 88	NB
EN 205	Determination of tensile shear strength of lap joints (Bestimmung der Klebfestigkeit von Längsklebung im Zugversuch)	32, 76, 86	
DS/EN 316	Wood fibre boards. Definition, classification and symbols	49, 57, 67, 94	
DIN 68140	Wood Finger-jointing	30, 75	TI*
DS 419	Corrosion protection	38, 58, 60, 79, 86, 88	TI*
DS/EN 599-1	Durability of wood and wood-based products. Efficacy of preventive wood preservatives as determined by biological tests	39, 40, 41	TI*
DS/EN 622-5	Fibreboards. Specifications. Part 5: Requirements for dry process boards (MDF)	49,57,67,94	
DS/EN 351-1	Durability of wood and wood-based products. Preservative-treated solid wood	39, 40	TI*
DS/EN 391	Glued laminated timber. Delamination test of glue lines	35, 80, 81	
DS/EN 392	Glued laminated timber. Shear test of glue lines	35, 80	
NTR	Doc. no. 3: 1998 - Preservative treatment	40, Annex 8 page 8	TI*
DS/EN 927-1	Paints and varnishes - Coating materials and coating systems for exterior wood	39, 40, 41, 87	TI*

Annex 19, page 2 of 2*The following are changed:*

Standard no.:	Concerning:	Page in Tech. Requirements	Accredited lab.
DS/EN 152	Test methods for wood preservatives - Determination of the protective effectiveness of a preservative treatment against blue stain in wood in service. Laboratory method. Part 1: Brushing procedure	42, 90	TI*
ISO 9227	Corrosion tests in artificial atmospheres – salt spray tests	44, 45, 53, 63, 91	TI*
DS/EN/ISO 10289	Methods for corrosion testing of metallic and other inorganic coatings on metallic substrates. Rating of test specimens and manufactured articles subjected to corrosion tests	44, 45, 53, 63, 91	TI*
DS/EN 1279	Part 1-5: Glass in building - Insulating glass units	46, 55, 64, 92	
DS/SBC 1279	Special regulations for DS Certification of insulating glass units in accordance with EN 1279	46, 55, 64, 92	
RAL-GZ 716/1	Plastic window profiles	49	TI*
DS/EN 514	Unplasticized polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors. Determination of the strength of welded corners and T-joints	51	TI*
DS/ISO 2808	Paints and varnishes - Determination of film thickness	60, 88	TI*
DS/ISO 2813	Paints and varnishes -- Determination of specular gloss of non-metallic paint films at 20 degrees, 60 degrees and 85 degrees	60, 88	TI*
RAL-RG 631	Colours in different coating systems	61, 89	TI
DS/ISO 2409	Paints and varnishes. Cross-cut test	61, 89	TI*
DS/EN 12373-1	Aluminium and Aluminium Alloys - Anodizing - Part 1 Method for specifying decorative and protective anodic oxidation coatings on aluminium	61, 89	÷
DS/EN 12765	Classification of thermosetting wood adhesives for non-structural applications	33,78	
DIN 17611	Grinding of aluminium	61, 89	÷
ISO 2360	Measurement of coating thickness	61, 89	TI*
DS/ISO 3210	Sealed anodic oxide coatings	61, 89	TI*
DS/EN 14608	Windows - Determination of the resistance to racking	44, 53, 63, 90	TI*
DS/EN 13115	Windows. Classification of mechanical properties. Racking, torsion and operating forces	44, 53, 63, 90	TI*
DS/EN 13307-1	Timber blanks and semi-finished profiles for non-structural uses - Part 1: Requirements	33, 78	
DS/EN 14257	Adhesives. Wood adhesives. Determination of tensile strength of lap joints at elevated temperature (WATT '91)	31,33,77,78	
DS/EN 14351-1	Windows and doors. Product standard, performance characteristics. Windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics	3, Annex 1	
DS/EN ISO 10077	Part 1-2: Thermal Performance of Windows, Doors and Shutters	16, 51, 60, 69	TI*
DS 418	Calculation of heat loss from buildings	16, 51, 60, 69	TI*
DS/EN 1670	Building hardware. Corrosion resistance. Requirements and test methods	44, 45, 53, 63, 91	
DS/EN 12211	Windows and doors. Resistance to wind load. Test method	80	
EN AW- 6060	Alloys	58, 79	
EN AW- 6063	Alloys	58, 79	
DS/EN 12365	Part 1-4: Building hardware. Gasket and weatherstripping for doors, windows, shutters and curtain walling	43, 52, 62, 90	
DS/EN 14609	Determination of the resistance to static torsion	3	TI*

Technical Requirements - current and previous editions

The following annex:

Annex 19 *Technical Requirements - current and previous editions*

Has got a new number:

Annex 20 *Technical Requirements - current and previous editions*

The section is added:

7th Edition - January 2008

7th Edition, Rev. 1 - December 2008

7th Edition, Rev. 2 - July 2010