



Internal Quality Standard
Sokółka Okna i Drzwi S.A.



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Production - Videos



Our projects

1. Subject of the standard

The subject of this standard are applicable requirements in the scope of qualitative acceptance of goods manufactured by Sokółka Okna i Drzwi Produkcja S.A.

2. Scope of the standard application

This standard shall be applicable to production and turnover of finished goods offered by Sokółka Okna i Drzwi Produkcja S.A., as well as to the joinery acceptance process after fitting in a construction facility.

The scope of the standard application includes the following product groups:

- Wooden windows and doors in **STYLE68, THERMO80, ELITE92, THERMOHS**
- Wooden-aluminium windows and doors in **STYLE68-ALU, THERMO80-ALU, ELITE92-ALU, THERMOHS-ALU** styles
- Wooden and wooden-aluminium lift and slide doors in **ECO SLIDE, ECO SLIDE ALU** styles
- Wooden and wooden-aluminium windows and doors in Danish construction **EURO, EURO-ALU** styles
- Wooden-aluminium windows and doors in **PURO, PURO PASSIVE** styles
- Wooden sills
- Wooden slats, trims, window connectors

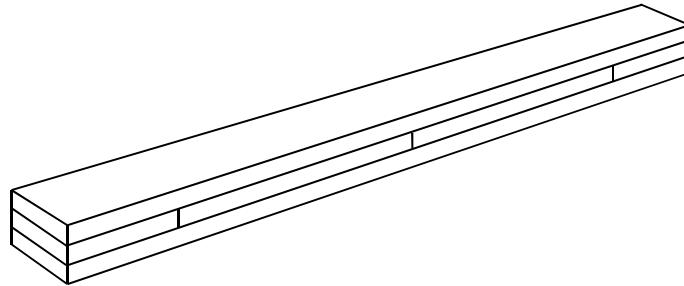
3. Basic product divisions

3.1. In respect of the wood surface finishing methods, products with the following methods of final finishing are distinguished:

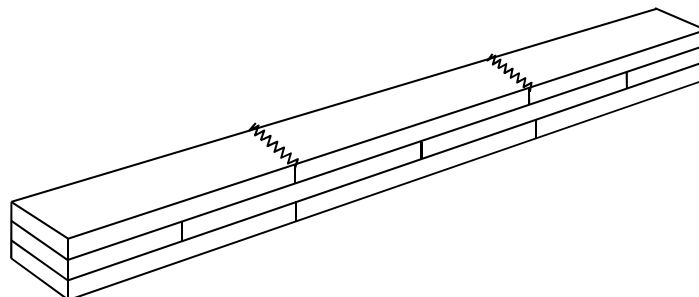
- finishing with opaque paint coating
- finishing with transparent/coloured coating with visible wood pattern

3.2. In respect of applied technology of gluing structural elements of windows and doors, the following are distinguished:

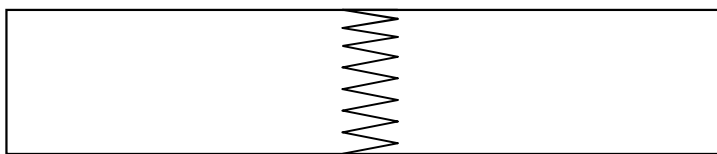
- wooden element glued along the length and in layers by thickness (external solid lamellas)



- wooden element glued along the length (finger joints) and in layers by thickness:



The method of joining wooden elements along the length using finger joints:



We glue wooden elements using water-resistant glues which meet strength requirements specified for the highest hardness class, i.e. D4.

4. Qualitative requirements

4.1. Acceptable qualitative criteria and requirements for subassemblies and finished product made of pine, oak and exotic wood:

| No. | Criteria | Products with stain varnish coats | Products with opaque varnish coats | Notes |
|-----|--|--|--|--|
| 1 | Rectilinearity of the element | deviation from straight line max 1mm for 1m of the element length | deviation from straight line max 1mm for 1m of the element length | |
| 2 | Twist of the element | deviation from straight line max 1mm for 1m of the element length | deviation from straight line max 1mm for 1m of the element length | |
| 3 | Difference between diagonals of sashes and frames measured in the notch | for diagonal length up to 1m, max difference of 2mm. For diagonal length over 1m, max difference of 3mm | for diagonal length up to 1m, max difference of 2mm For diagonal length over 1m, max difference of 3 mm | |
| 4 | Breaches caused by tenoning in elements of the frame jambs | up to 2mm deep in frame jambs on wall-adjacent surfaces | up to 2mm deep in frame jambs on wall-adjacent surfaces | unacceptable for surfaces of combining windows into sets |
| 5 | Rectilinearity of fibre layout in external lamellas | deviation from straight line max 10 for 1m of the element length (solid) | - | applicable to stain coatings |
| 6 | Fibre twist | in middle lamellas of an element | in middle lamellas of an element | |
| 7 | Diversification of ring thickness in individual element of a subassembly | acceptable | acceptable | |
| 8 | Gaps in connections of glazing bead fronts | small shifts and gap acceptable | small shifts and gap acceptable | |
| 9 | Flat indentations | 2 of these with surface area over 4mm ² acceptable on a single surface | 2 of these with surface area over 4mm ² acceptable on a single surface | |
| 10 | Craters and small blisters in the form of small, scattered points | acceptable | acceptable | applies to opaque coatings |
| 11 | Small inclusions in the form of individual, scattered points | acceptable | acceptable | applies to opaque coatings |
| 12 | Small roughness of front surfaces of elements (wood cross-section) | acceptable | acceptable | applies to opaque coatings |
| 13 | Small roughness of notch surfaces of sashes and frames | acceptable | acceptable | applies to opaque coatings |
| 14 | Minor appearance of wood pattern, marks of multi-wedge connections, marks of inserts | acceptable | acceptable | applies to opaque coatings |
| 15 | Defects in paint coatings and minor losses (up to 2mm) present on invisible surfaces after installation of the product (wall-adjacent surfaces) and on notch surfaces (invisible after closing the window) | acceptable | acceptable | |
| 16 | Presence of thick silicone layer, up to 10mm wide, on the glass pane perimeter, within the silicone-application area | acceptable | acceptable | |
| 17 | Differences in hue and texture of varnish coat resulting from anatomical structure of the wood (annual increments) | acceptable | differences in texture acceptable | applicable to stain coatings |

4.2 Notes

- 4.2.1.** The paint coating should cover the entire surface and must be applied uniformly.
- 4.2.2.** The use of a paint-varnish system to finish the wood surface, giving the effect of semi-opaque in a colour occurring in fact as an opaque colour (white / pastel and other colours from RAL, NCS and other) is at risk of changing the original colour. This change occurs under the influence of atmospheric factors and sunlight (UV radiation) both on the external and internal sides, in a relatively short period of time compared to traditional stain range or fully opaque colours (e.g. RAL 9016, NCS, BS and other). The manufacturer is not able to effectively counteract the change of the original colour and in most cases it will be visible as yellowing of the surface, the intensity of which depends on the hue, the degree of gloss as well as the binding agent (basic substance) and the content of fungicides in the varnish. In practice, this means that the semi-opaque blue or gray varnish will soon change its hue towards green and the semi-opaque white will turn yellow. With this type of finish, the protective functions of the coating are provided, and the colour change does not negatively affect the durability of painting and the adhesion of the varnish film to the wood surface, and is only a visual defect. The yellowing phenomenon does not affect the colour of the opaque finishes (these products contain large amounts of pigments and have good coverage) and traditional stain colours, which are usually slightly "brownish" or "yellow" by nature.
- 4.2.3.** Pane silicone seals must be applied uniformly along the entire perimeter, with no gaps, with angle on the jambs and glazing beads. Minor unevenness of the seals is acceptable, particularly around the corners of the window sashes and mullions.
- 4.2.4.** The fittings should be attached firmly and in a way allowing to open and close the sashes smoothly, without breaks and catching the sash on other elements of the window or door.
- 4.2.5.** Humidity of wood used to make the products should come to 10-14%.

4.3. Acceptable defects in glazing units (as per applicable standards)

| No | Defect type | Existence of defects in a glazing unit with surface area of: | | |
|----|--|---|---|---|
| | | up to 1,0m ² | between 1.0m ² and 2,0m ² | over 2,0m ² |
| 1. | Spot defects in the form of foreign body inclusions | unacceptable | unacceptable | unacceptable |
| 2. | Spot and linear defects in the form of blisters - cracking and open blisters - closed blisters | Unacceptable 2 pcs. Acceptable up to 2mm large | Unacceptable 3 pcs. Acceptable up to 2mm large | Unacceptable 5 pcs. Acceptable up to 2mm large |
| 3. | Linear defects - in the form of scratches | acceptable with total length up to 40mm and maximum length of a single scratch up to 15mm | acceptable with total length up to 45mm and maximum length of a single scratch up to 15mm | acceptable with total length up to 50mm and maximum length of a single scratch up to 15mm |
| 4. | Defects in the form of chips and splinters at the edges | single instances up to 3mm acceptable | single instances up to 3mm acceptable | single instances up to 3mm acceptable |

On the basis of the standards:

- EN 572 Part 2 to 6 and 8 Glass in construction - Basic products of sodium-calcium-silicon windows
- EN 1096-1 - Glass in construction – Coated glass
- EN 1863-1 Glass in construction – Thermic-reinforced sodium-calcium-silicone glass
- EN 12150-1 Glass in construction – Thermal-hardened safe sodium-calcium-silicone glass
- EN 12543-6 Glass in construction – Laminated glass and safety laminated glass

Control the quality of glass and glazing units consists of inspection carried out with the naked eye in natural light conditions, in transmitted and reflected light at a distance of 2 m. The observer, standing opposite the glass, can observe it at a maximum angle of 30 degrees. Defects invisible from the distance of 2 m are not qualified as defects.

4.4. Notes

- 4.4.1. Insulated glass units are associated with a wide range of optical and visual effects, and specific physical behaviors. These facts are not defects and are not subject of the complaints – in accordance with the standards EN 1279-1
- 4.4.2. The use of triple glass units is connected with the possibility of displacement of the spacer bar inside of glass unit in relation to each other in the limit acceptable by the glass manufacturer.
- 4.4.3. The selection of the type of insulated glass unit prior to their use lies with the designer who has the appropriate qualifications to design in construction.
- 4.5. Assessment of the quality of the aluminum cladding:
 - 4.5.1. On the main visible surface defects that would be visible to the naked eye from a distance of 3m may not occur.
 - 4.5.2. Inclusions must not be larger than 2 mm in diameter and may not occur more often than inclusion per 1 m of profile length.
 - 4.5.3. Inclusions of a diameter less than 0.5 mm must not occur in larger collection visible from a distance of 3 m.
 - 4.5.4. Scratches must not be larger than 0.1 mm wide and may occur over a maximum length of 15 cm.
 - 4.5.5. On the main visible surface: the splits on the joints of the aluminum cladding must not exceed 0.5 mm.

5. Manufacturer's internal quality control

Product quality control is carried out as per the Inspection Plan and includes:

- Self-control - checking product quality at each production stage, by production employees.
- Inspection control - carried out by controllers at individual production stages by taking sample on the basis of which conformity of manufactured goods is checked.
- Control and final inspection - a random sample from product batch prepared for shipment is tested. The shipment assessment considers also the method of packing and securing the goods on the pallets.
- The inspection applies to deliveries of raw materials and supplies used for production. The parameters are monitored continuously, allowing for early reaction to any nonconformities in the process.



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