Technical data sheet

DIFFERENCES IN COLOUR OR GRAIN IN WOODEN PRODUCTS OR WOODEN COMPOSITES

This data sheet provides information about differences in colour or grain in wooden products or wooden composites such as, for example, materials made of wood, bamboo, wood fibres or chips (both product types are summarised with the term “wood” in the below text). Wood is a natural material. Differences in wax, structure, grain and colour are inevitable and therefore typical for such items.

Wood is a natural product

Sun screen systems featuring wooden components such as wooden blinds have their own unique character due to the natural look and structure of the surface. As wood is a natural product, surface tolerances are inevitable. This can apply to both the structure of the wood (grain, etc.) in general as well as the natural colour effects.

Sun screen products that are sold via specialists and tailored to customer requirements are high-quality products. Nevertheless, there are technical restrictions for processing wood which are based on current production and processing options.

Differences in the surface and colour are typical features of wood.

These are often inevitable as part of the manufacturing process and are a basic feature of such products.

Ambient conditions

Colour perception is subjective and dependent on ambient factors (e.g. type of light, ambient light). These factors must be taken into account when assessing whether there is a deviation in colour. This phenomenon is also known when buying clothes when the shade appears completely different in daylight compared to the artificial lighting in the shop.

Quality assurance

Deliveries are carried out within technical stipulations for colour, grain and structure.

This is in collaboration with the ViS, the Verband Schweizerischer Anbieter von innenliegendem Sicht- und Sonnenschutz, as well as the BSR, Bundesverband der vereidigten Sachverständigen für Raum und Ausstattung e.V.

Technical data sheet for wooden blinds

Foreword

Production of interior sun protection from natural materials is of high quality and individual products are subjected to stringent quality assurance. Nevertheless, technical limits or other external effects may lead to certain appearances within equipment, motor or hanging technology that lead to complaints.

This guideline was prepared taking current norms and the latest state of the art into account by a group of experts, consisting of the members of the Verband für innenliegenden Sicht- und Sonnenschutz e.V. (ViS) in collaboration with the Bundesverband der vereidigten Sachverständigen für Raum und Ausstattung e.V. (BSR), in order to provide assistance to specialist dealers, interior decorators and experts to provide clear explanations for inevitable technical aspects as well as to evaluate these. This document does not claim to be complete.ViS member companies strive for constant improvement and development of privacy shields and sun protection products.

Regardless of these technical features, specialist assembly is also part of any high-quality interior sun protection, which is not part of these guidelines.

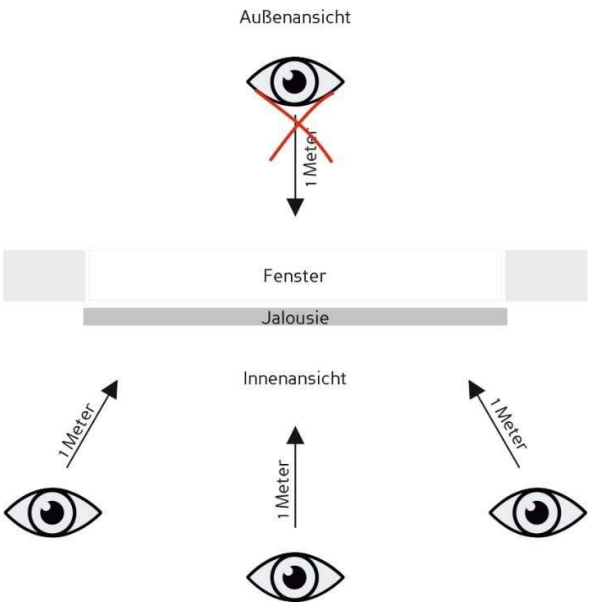
General information

Objective view of products

In order to ensure objective assessment of products as far as possible, the relevant rules must be borne in mind when evaluating interior sun protection and such evaluation must also take place in various lighting conditions. This means that an error has to be recognised when taking the following rules into account:

Viewing distance

1 metre, 3-sided, from inside, the exterior view can be ignored



Exterior view

Window
Blind

Interior view

Backlight

Observation can also take place with backlight. No additional light sources/no highlights. No additional light sources (e.g. spotlights) should be used during the observation process. Unnatural highlights must be avoided.

Synchronisation of electric motors

The motors that are common on the market do not have a synchronous run. This means a synchronous run is not possible in an electrically powered sun protection system. If a synchronous run is wanted, then this must be explicitly specified before issuing the order. All building requirements should be monitored in the planning phase then correspondingly taken in account in the implementation phase.

Deviations in colour

Deviations in colour are often inevitable during manufacture. Other environmental factors (e.g. type of light, incidence of light, ambient colours) may have a considerable effect on colour perception. Deviations in colour do not affect the quality, function, or service life of the product. Potential deviations in colour must be taken into account with the product in an extended position.

Range of applications

The products described here can be used in all rooms with low and average (these include, for example, kitchens and bathrooms which are not in public use) rooms.

The products must not be used:

- in inadequately ventilated rooms,
- in saunas and public swimming pools,
- in areas with direct exposure to spray (e.g. as a shower curtain),
- in locations with an aggressive atmosphere (e.g. chemically corrosive, corrosive mist, etc.),
- in unheated conservatories,
- in rooms with twin wall plates,
- in open areas (e.g. canopies for terraces)

Window cleaning

To prevent damage, internal sight screens and sun protection must not come into direct or indirect contact with aggressive cleaning agents or cleaners that contain solvents.

Measurements/tests

Product measurements and testing must be carried out at a temperature of 23°C ± 5°C (as per the latest version of DIN EN 13120) and with air humidity between 30 and 70%.

Product features of wooden blinds

Tolerance in width

The width tolerance for wooden blinds is +/- 5 mm

Tolerance in height

A tolerance in the height of the wooden blinds is in conjunction with the extension of the ladder cord and ladder strips by +/- 10 mm

Curvature of the slats

The curvature is understood as being the maximum deviation of a slat that is resting on a ladder cord from the level defined by the ends of the slat. Measurement takes place when the slats are on a closed, extended position and also in an open, extended position.

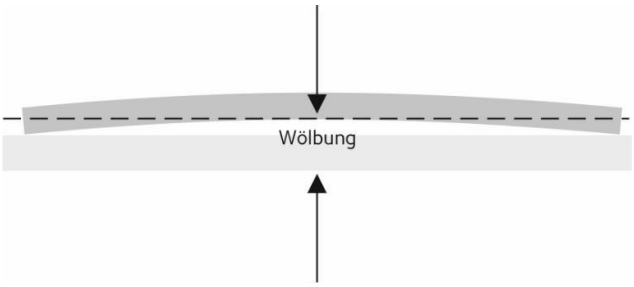
The following upper thresholds as per DIN EN 13120 (relevant valid version) most not be exceeded:

Length of slat up to 1.5 m – max. curvature 5 mm Length of

slat 1.5 to 2.5 m – max. curvature 10 mm Length of slat 2.5 to

3.5 m – max. curvature 15 mm Length of slat from 3.5 m

upwards – max. curvature 20 mm



Curvature

Surface structure with wooden blinds

Deviations in the colour, grain and structure are typical features of natural products and are inevitable during manufacture.

Skewing

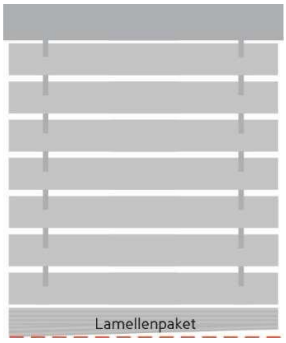
Under certain circumstances, the slats may become skewed when using wooden blinds.

Position of ladder cords / ladder strips

The ladder cords / ladder strips on wooden blinds can randomly be between the slats when pulling up the covering. In particular, when there is a large width/height ratio (> 1:3) resulting in a relatively tall set of slats with a relatively low weight due to the low width, this effect can have an impact on the appearance of the blind. The blinds may therefore appear crooked, which is often incorrectly interpreted as “skewing” or as a “skewed blind” which is improper.

Winding on pull cord

This ratio of height to width plays a key role even when winding the pull-up cord onto the wind-up cone on the top rail. Depending on how the cord is pulled (jerky - gentle / fast - slow) and on the weight, the cord may be wound onto both cones with differing tension ratios, which can also have an effect on how the blinds appear, as described above.



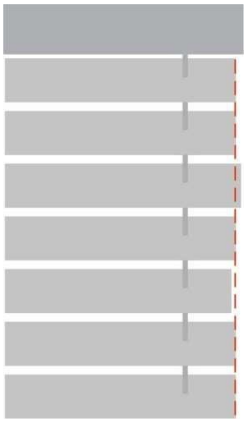
Lateral skewing of slats

In contrast to a fabric blind (e.g. roller blind, pleated blind), wooden blinds consist of individual slats that are the same width which are held together by at least two ladder cords/ladder strips to form a covering. As a result of the tolerance of the pull-up cord in the punched holes within the covering, the slats have a certain play which ensures the covering has the necessary flexibility.

When raising the covering, the ladder cords /strips lie to the left or right, and when lowering it, they are correspondingly fanned out. Due to the slats having a degree of play in the covering, as mentioned above, individual slats move in accordance with this reciprocating motion and correspondingly remain in the ladder cords.

An exact lateral edge, comparable with a woven / cut edge in fabric, is not possible with a horizontal blind.

This becomes more or less apparent depending on the look and colour of the slats, as well as the background.



Freely hanging bottom rail

Typical assembly of wooden blinds is with a freely hanging bottom rail. If the bottom rail rests on a fixed surface then it is possible that the slats open up of their own accord due to the release of tension on the pull and twist cord.

Height offset with several blinds hung adjacent to each other

The covering of a wooden blind consists of individual slats that have at least two ladder cords or strips threaded through them to form a covering. The spacings of the ladder cords/strips are coordinated with the design of the slats (25 mm, 35 mm, 50 mm, 65 mm etc.).

These ladder cords are generally made of polyester yarn. The production process and material are subject to tolerances, meaning that the spacings may vary slightly depending on the production batch. This may result in the slats being at a height offset relative to adjacent wooden blinds. Depending on the height of the system, this height tolerance of the ladder cord webs have some effect on the covering, i.e. the tolerances of the web spacing increase with increasing height.

Effect: the larger the system, the greater the height offset on the slats relative to both coverings. The height offset described here in the case of slats on wooden blinds mounted adjacent to each other is in line with the state of the art provided that the tolerances of individual systems are in line with the above-stated standard. In the case of wooden blinds, a height offset of 10 mm is possible.

Synchronous run with electric motors

When installing several electrically powered sun protection products, it is possible that the bottom rails are in different positions when moving up and down as the systems do not move synchronously. At the same time there may be different turning angles on the slats between different sets of wooden blinds.

24 V DC voltage

The reasons for discrepancies in running speeds are varied and not just due to the drives themselves. DC drives may have a speed difference of up to 3% depending on the design. In addition, the running speed is influenced by the design of the corresponding sun screen system (size, weight, winding behaviour, friction losses, etc.). If, for example, one system is heavier than the adjacent system, then the system will potentially be slower when going upwards, but faster going downwards.

Synchronous running of wooden blinds is not possible as standard with traditional DC drives. If this requirement is known in the planning phase then some products may have special drives and corresponding controls to achieve almost synchronous running (approx. +/- 5 mm) of wooden blinds.

230 V AC voltage

The typical 230 V drives are AC asynchronous drives. The reasons for discrepancies in running speeds are also varied here and they are not just due to the drives themselves. As a result of production tolerances, 230 V drives have speed differences even within the same drive type. The run speed is also influenced by the type of corresponding wooden blind (e.g. weight).

A heavier system would, for example, be slower when going upwards, but faster going downwards compared to an adjacent system that is lighter. Manufacturers ensure that their drives are tailored for sun screen systems.

Nevertheless, the deliverable performance ratings from manufacturers usually do not allow identical speeds to occur, particularly for directly adjacent wooden blinds with considerable differences in size.

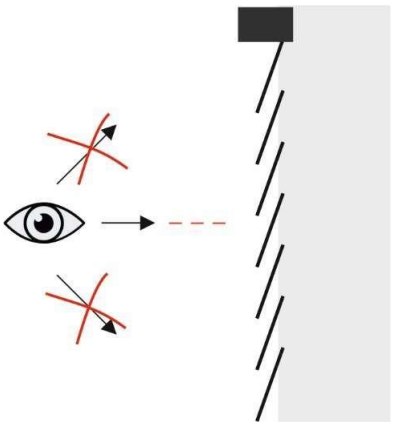
Synchronous running of wooden blinds is not possible as standard with 230 V asynchronous drives.

Battery drives

The reasons for differences in running speeds also vary for battery-powered wooden blinds. Depending on the design, there may be minor speed differences in the same way as with drives that are powered directly.

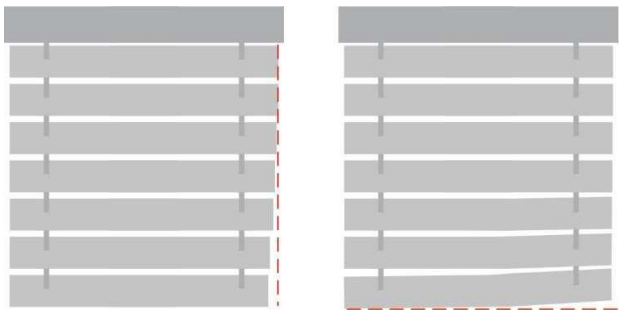
Closing behaviour / turning

When the covering is completely closed, the slats must overlap each other.
If looking at the closed slats from a right angle, it must not be possible to look through the blind (based on the current, valid version of DIN V 18073). This means that the angle of the slats in a covering may vary from top to bottom. This means that it is possible to see through them from certain angles, either from below looking up or from above looking down. This effect is particularly clear in darkness when combined with lighting in the room. Wooden blinds that are greater than 200 cm in height turn less in the bottom third of the covering.



Permitted discrepancies in the perpendicular course of a blind

A horizontal deviance regarding width and vertical deviance regarding height must not exceed 10 mm. This applies after being fixed into position perpendicularly based on
DIN EN 13120 (based on the current, valid version) when the blind is fully retracted and extended as well as in a middle position.



Differing system height with blinds hung adjacent to each other

In the case of blinds hung adjacent to each other that are the same size, there may be different heights when the blinds are fully retracted due to technical reasons.

Technical data sheet for sun screen systems made of natural fabrics (woven bamboo, wood and paper)

Foreword

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Nevertheless, technical limits or other external effects may lead to certain appearances within equipment, motor or hanging technology that lead to complaints.

Regardless of these technical features, specialist assembly is also part of any high-quality interior sun protection, which is not part of these guidelines.

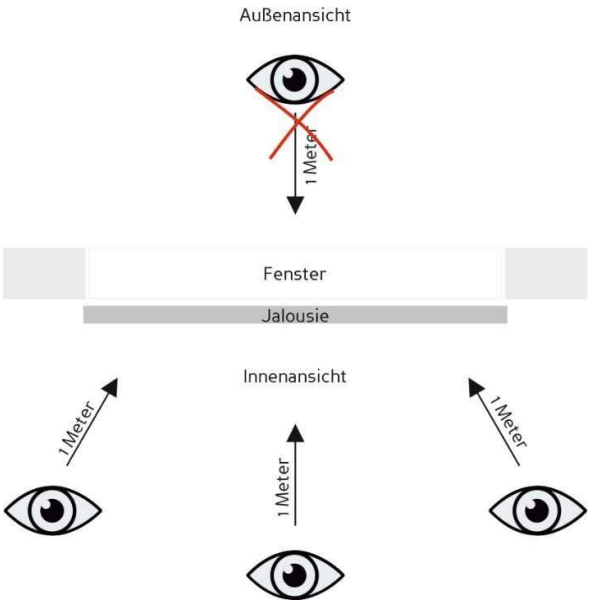
General information

Objective view of products

In order to ensure objective assessment of products as far as possible, the relevant rules must be borne in mind when evaluating interior sun protection and such evaluation must also take place in various lighting conditions. This means that an error has to be recognised when taking the following rules into account:

Viewing distance

1 metre, 3-sided, from inside, the exterior view can be ignored



Exterior view

Window
Blind

Interior view

Backlight

Observation can also take place with backlight. No additional light sources/no highlights. No additional light sources (e.g. spotlights) should be used during the observation process. Unnatural highlights must be avoided.

Synchronisation of electric motors

The motors that are common on the market do not have a synchronous run. This means a synchronous run is not possible in an electrically powered sun protection system. If a synchronous run is wanted, then this must be explicitly specified before issuing the order. All building requirements should be monitored in the planning phase then correspondingly taken in account in the implementation phase.

Deviations in colour

Deviations in colour are often inevitable during manufacture. Other environmental factors (e.g. type of light, incidence of light, ambient colours) may have a considerable effect on colour perception. Deviations in colour do not affect the quality, function, or service life of the product. Potential deviations in colour must be taken into account with the product in an extended position.

Range of applications

The products described here can be used in all rooms with low and average (these include, for example, kitchens and bathrooms which are not in public use) rooms.

The products must not be used:

- in inadequately ventilated rooms,
- in saunas and public swimming pools,
- in areas with direct exposure to spray (e.g. as a shower curtain),
- in locations with an aggressive atmosphere (e.g. chemically corrosive, corrosive mist, etc.),
- in unheated conservatories,
- in rooms with twin wall plates,
- in open areas (e.g. canopies for terraces)

Window cleaning

To prevent damage, internal sight screens and sun protection must not come into direct or indirect contact with aggressive cleaning agents or cleaners that contain solvents.

Measurements/tests

Product measurements and testing must be carried out at a temperature of 23°C ± 5°C (as per the latest version of DIN EN 13120) and with air humidity between 30 and 70%.

Product features of Venetian blinds, roll-ups and roller blinds made of natural materials

Tolerance in width

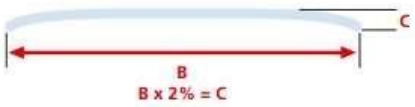
The width tolerance is +/- 5 mm

Tolerance in height

A tolerance in the height of these systems is connected to the expansion of the cords of +/- 15 mm when at rest, but this depends on the ambient temperature and humidity.

Bulging

The permitted tolerance for the bulging of coverings based on DIN EN 13120 (in the relevant valid version) is a maximum of 2% of the width of the fabric: With a product width of 100 cm, the curvature can be up to 2.0 cm (C).



Swelling of thread

Pilling (swelling of thread) may occur at irregular intervals and is a sign of authenticity of such coverings. Despite extremely careful preparation during the production of these fabrics it cannot be avoided completely.

Warping of fabrics

Forces in the warp and weft direction interact, resulting in stress and tension during the manufacture of natural fabrics. Depending on the yarns used and the densities of woven natural materials, different forces may act on the fabric during production.
The effects of these forces can lead to warp and weft threads not being crossed exactly at right angles, which is referred to as warping. Despite the latest technology, warping of ± 3% based on the width of the fabric may occur.

Wave formation

Perceived wave formation usually heavily depends on the incidence of light. This means that individual waves can be disproportionately visible. Such behaviour of a natural decoration does not represent grounds for complaint. Above all, it is a feature of the product and of production.

Permitted deviation of the horizontal and vertical course of a natural covering

The highest horizontal deviance regarding width and vertical deviance regarding height must not exceed 10 mm. This applies after being fixed into position perpendicularly based on DIN EN 13120 (based on the current, valid version) when the blind is fully retracted and extended as well as in a middle position.

Surface structure with natural coverings

Deviations in the colour, grain and structure are typical features of natural products and are inevitable during manufacture.

Batch-related colour deviations

Colour deviations are due to inevitable differences in the raw materials provided (fabrics, dyes, paints, stains and aids). It is inevitable that each of these single primary dyes are produced with tolerances that are common in the trade. These deviations/tolerances are largely balanced out by adjusting the colour during the painting process.
This happens when dyes required in production are mixed together in various proportions until the best possible result is used as the master sample.
Despite this process, a 100% match of this colour impression cannot be guaranteed.

Colour deviations due to the environment

Colour perception also depends on ambient influences (e.g. type of light/ambient light, colour of an opposite façade).
The technical term for this effect is known as metamerism and it must be taken into account when assessing deviation of a colour. Even the muntins in a muntin window is sufficient for colour to be perceived differently. This phenomenon is also known when buying clothes when the shade appears completely different in daylight compared to the artificial lighting in the shop.

Synchronous run with electric motors

When installing several electrically powered sun protection products, it is possible that the coverings are in different positions when moving up and down as the systems do not move synchronously.

24 V DC voltage

The reasons for discrepancies in running speeds are varied and not just due to the drives themselves. DC drives may have a speed difference of up to 3% depending on the design. In addition, the running speed is influenced by the design of the corresponding sun screen system (size, weight, winding behaviour, friction losses, etc.). If, for example, one system is heavier than the adjacent system, then the system will potentially be slower when going upwards, but faster going downwards.

Synchronous running of products is not possible as standard with traditional DC drives. If this requirement is known in the planning phase then some products may have special drives and corresponding controls to achieve almost synchronous running (approx. +/- 5 mm) of products.

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A heavier system would, for example, be slower when going upwards, but faster going downwards compared to an adjacent system that is lighter.

Manufacturers ensure that their drives are tailored for sun screen systems. Nevertheless, the deliverable performance ratings from manufacturers usually do not allow identical speeds to occur, particularly for directly adjacent products with considerable differences in size. Synchronous running of products is not possible as standard with 230 V asynchronous drives.

Battery drives

The reasons for differences in running speeds also vary for battery-powered sun protection products. Depending on the design, there may be minor speed differences in the same way as with drives that are powered directly.

Differing system height with products hung adjacent to each other

In the case of sun screen systems hung adjacent to each other that are the same size, there may be different heights when the products are fully retracted due to technical reasons.