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TEST REPORT
EN 13561
External blinds and awnings — Performance requirements
including safety

Report Reference No..... : CTL2308047 [REDACTED]

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Date of issue..... : Aug. 07, 2023



Testing Laboratory Nme..... : [REDACTED]

Address..... : [REDACTED]

Testing location..... : Same as above

Applicant's Nme..... : [REDACTED]

Address..... : [REDACTED] ct,

Test specification:

Standard..... : EN 13561:2015

Test procedure..... : CE

Non-standard test method..... : N/A

Test item description..... : Canopy

Trade Mark..... : N/A

Manufacturer..... : [REDACTED]

Model/Type reference..... : [REDACTED]

Ratings..... : /

Summary of testing:**Testing location:**

Shenzhen CTL Testing Technology Co., Ltd.

Floor 1-A, Baisha Technology Park, No.3011, Shahexi Road, Nanshan District, Shenzhen, China 518055

Tests performed (Name of test and test clause):

The sample(s) tested complies with the requirements of EN 13561.

These tests fulfil the requirements of standard ISO/IEC 17025.

Full-test was carried out.

Summary of compliance with National Differences: N/A**Copy of marking plates:**

Canopy
Model: [REDACTED]
Manufacturer: [REDACTED]
[REDACTED]
[REDACTED]
Importer name: XXXXXXXXXXXXXXX
Importer address: XXXXXXXXXXXXXXX
Date: YY
 
Made In China

Remark: the marking plates of other models are in the same pattern.

The above marking are in the minimum requirements required by safety standard. For the final Production sample, the marking which do not give rise to misunderstand may be add.

Possible test case verdicts:

- test case does not apply to the test object..... : N (Not Applicable)
- test object does meet the requirement..... : P (Pass)
- test object does not meet the requirement..... : F (Fail)

Testing:

Date of sampling..... : May 11, 2023

Date (s) of performance of tests..... : May 11, 2023 to May 18, 2023

General remarks:

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(see Enclosure #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

Throughout this report a comma / point is used as the decimal separator.

APPENDIX 1: Photos.

General product information: N/A**Model difference:**

Models Name: [REDACTED] The difference between them is: all product models are different shell color, customer number; Its internal structure, circuit principle, product PCB board wiring and all the key components related to safety, electromagnetic compatibility performance are identical. The differences do not affect the safety and EMC performance of the products.

All tests were conducted on the representative model: [REDACTED]

Remark: The origin test report Ref. No. CTL23050580 [REDACTED] as modified, and the original test report No.: CTL23050580 [REDACTED] will be invalid from the date of issuance of this report

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Clause	Requirement	Remark	Result
4	Product characteristics		P
4.1	Resistance to wind loads		P
	The wind resistance of an external blind is characterized by its ability to withstand specified loads simulating the action of wind in positive or negative pressure.		P
	Wind resistance is specified through classes defined by threshold values of nominal pressure pN and safety pressure pS = $\gamma \times pN$ with $\gamma = 1,2$:	Class 3	P
	The manufacturer shall define a maximum speed above which the external blind shall be retracted. This wind speed shall be indicated in the instructions for use.		N
	For folding arm awnings and trellis arm awnings having more than two arms, the size limit for the same class shall be determined considering the maximum width of fabric applied to one arm for the same projection (H).		N
4.2	Resistance of non retractable elements to pressure loads		P
	Since some parts of external blinds – for example head boxes, guiderails – cannot be retracted, they shall withstand in some cases very high wind speed. The resulting pressure on the product depends on:		P
	—the installation condition,		P
	—the height of the building,		P
	—the location of the building.		P
	This clause applies to the external blind itself. It does not cover the fixing of the external blind to its support for which the manufacturer shall give guidance in the instructions for installation (see 6.3.2).		P
	all fixed parts of the external blinds, i.e. the parts that are not retracted when the external blind is in the complete retracted position, shall be designed so that there shall be no permanent deformation after a pressure of 800 Pa has been applied.		P
4.3	Resistance to snow load (non retractable external blinds only)		P
	The resistance to snow load of non retractable external blinds shall be justified by calculation according to the relevant regulation		P
4.4	Resistance to water pocket		N
4.4.1	General		N
	This clause is only applicable to folding arm awnings, trellis arm awnings, Dutch awnings and Pergola awnings.		N
	Under the action of precipitation, the external blind may retain water forming a pocket of water. The external blind shall withstand the corresponding load.		N
4.4.2	Determination of performance		N
	The determination of performance shall be in accordance with the test method specified in EN 1933.		N
4.4.3	Performance requirement		N

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Clause	Requirement	Remark	Result
	For an incline of 14° corresponding to a slope of 25 % (or for a lower incline specified by the manufacturer), the external blind in the fully extended position shall withstand the load created by a possible retention of water by the fabric (no rupture), or the water shall drain off to avoid forming a pocket of water.		N
	After releasing the load and drying of the fabric, the operating effort shall be maintained inside the class.		N
	The instructions for use supplied by the manufacturer shall remind the necessity of retracting the external blind in case of rain if the slope is less than 25 % or less than the value recommended by the manufacturer.		N
4.4.4	Performance classes		N
4.5	Operating effort		N
4.5.1	General		N
	This clause does not apply to power operated products.		N
	The effort FC needed to extend / retract the curtain and to tilt the laths depends on the type of operation.		N
4.5.2	Determination of performance		N
	The determination of performance shall be in accordance with the test methods specified in EN 13527.		N
4.5.3	Performance requirement and operating effort classes		N
4.5.3.1	General		N
4.5.3.2	Specific case for folding arm awnings (see Figure 1)		N
4.6	Operating mechanism — Diagrams HPV (“Human Pull Value”)		N
4.6.1	General		N
	This clause specifies geometrical characteristics of the operating mechanisms taking into account the comfort of the operation. It does not apply to power operated external blinds.		N
4.6.2	Performances requirements		N
	Gear operation		N
	Gear with crank or winch handle shall have: —a handle of a length R less than or equal to 0,20 m ($R \leq 0,20$ m); —a reduction ratio r of the gear less than 1:10 (average or mean reduction ratio when, for the same gear, several reductions exist).		N
	Belt, cord or chain operation		N
	These operating mechanisms shall have the minimal dimensions specified in the HPV diagrams		N
4.7	Resistance in case of misuse		N
4.7.1	Curtain and laths		N
4.7.1.1	General		N
	Under the action of abnormal but foreseeable use (misuse), the external blind shall not become misshapen or damaged to the extent that:		N

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Clause	Requirement	Remark	Result
	a) the damage impairs its correct operation;		N
	b) the damage which leads to a deterioration in appearance.		N
	Misuse operations are related to the displacement of the curtain and to the tilting of the laths.		N
4.7.1.2	Displacement of the curtain		N
	— Rough operation		N
	Rough operation occurs during extension and retraction.		N
	— Forced operation		N
	Forced operation occurs in the direction of extension and retraction, the curtain being either stopped or blocked in extended or retracted position, or blocked in an intermediate position.		N
	In the case of the folding arm awning, only the situations a1 and b2 shall be taken into account.		N
	— Reversed operation		N
	Reversed operations are only applicable to roller blinds or to products using a rolling mechanism for extension or retraction.		N
	Reversed operation occurs on extension with the curtain fully extended and on retraction with the curtain fully retracted.		N
4.7.1.3	Tilting of the laths		N
	— Rough operation		N
	Rough operation is not possible, the conditions defining its occurrence are not likely to occur (no excessive speed, no inertia of laths).		N
	— Forced operation		N
	Forced operation occurs in both closed positions which are the result of tilting the laths in both directions from the open position.		N
	— Reversed operation		N
	Not applicable.		N
4.7.2	Determination of performance		N
	The determination of performance shall be in accordance with the test methods specified in EN 12194.		N
4.7.3	Performance requirement		N
	After completion of each of the tests, using rough, forced and reversed operations, with the values given in Table 5, the following criteria shall be fulfilled:		N
	— the following appearance defects shall not be visible: no onset of tearing the fabric, no splitting of seams, no permanent damage to front profile or guiderails;		N
	— and, for manual operation, the value of operating effort shall be maintained within the limit of the initial class.		N
4.8	Mechanical endurance (repeated operation cycles)		N
4.8.1	General		N

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Clause	Requirement	Remark	Result
	This clause evaluates the ability of the external blind to withstand a number of operating cycles corresponding to a given usage:		N
	—the curtain: one cycle corresponds to a complete operation of extension and retraction including the rest times;		N
	—the laths: one tilt cycle is defined as a complete movement of the pivoting mechanism, moving the slats or vanes from one extreme position to the other and then back again.		N
4.8.2	Determination of performance		N
	The determination of performance shall be in accordance with the test methods specified in EN 14201.		N
4.8.3	Performance requirement		N
4.8.3.1	General		N
	After carrying out the cycles related to the appropriate class, the following requirements shall be fulfilled.		N
4.8.3.2	Manual operation		N
	—The value of the operating effort shall be maintained within the limit of the initial class. For folding arm awning with box, correct closing of box shall be ensured;		N
	—The appearance criteria shall be fulfilled: no onset of tearing of fabric, no splitting of seams, no permanent damage to front profile or guiderails;		N
	—Operating mechanisms shall not sustain significant damage.		N
4.8.3.3	Power operated operation		N
	— Variation of the speed under load		N
	The ratio $\frac{ T_1 - T_2 }{T_1} \times 100$ shall be less than or equal to 20 %		N
	— Accuracy of the positions of limit stops		N
	The variation of the fully retracted and fully extended positions, measured in the two rotation directions and expressed as an angle in relation to the initial value, shall remain in the range of values given in Table 6.		N
	— Characteristics of the mechanical brake		N
	—Stopping the movement of the curtain shall not lead to an angular displacement of more than 20°.		N
	—The displacement of the front profile, after applying an overload of 15 % of the weight of the curtain for 12 h, shall not exceed 5 mm, the measurement being carried out at an intermediate position.		N
	— Grease and oil traces		N
	There shall be no visible traces of grease and oil.		N
	The suitability for use of a power operated drive, supplied on the market, intended to be incorporated in an external blind may be determined according to EN 14202. Using a power operated drive conforming to EN 14202 may allow external blind manufacturers to reach a higher endurance class.		N
4.8.4	Classes of endurance		N

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Clause	Requirement	Remark	Result
4.9	Operation in frosty conditions		N
	If the external blind cannot be operated in frosty conditions (in case of formation of ice), the information for use shall provide the following warning: "The operation in frosty conditions may damage the product."		N
4.10	Safety in use		P
4.10.1	General		P
	The significant machinery hazards related to power operated external blinds are listed in Annex B.		P
4.10.2	Falling of persons		N
4.10.2.1	General		N
	In the case of buildings with projecting awnings, an automatic activation of the external blinds (sun, clock, anemometer, etc.) shall not endanger and create a risk of falling to persons working on the facade.		N
4.10.2.2	Determination of performance		N
	The requirement specified in 4.10.2.3 shall be fulfilled.		N
4.10.2.3	Safety requirement		N
	A supervised control priority locking device shall be capable of preventing all operation.		N
4.10.3	Protection from potentially harmful parts		P
4.10.3.1	General		P
	A contact between the user and the external blind and its parts shall not cause any injury.		P
4.10.3.2	Determination of performance		P
	The requirements specified in 4.10.3.3 shall be fulfilled.		P
4.10.3.3	Safety requirement		P
	Elements which may come into contact with passers-by or users, shall not present any sharp or projecting edges, likely to cause injury.		P
	Sharp and projecting edges of any moving parts of the external blind likely to be located at a height lower than 2,50 m from the floor or any permanent access level, shall be rounded with a minimum radius of 0,5 mm. Front profile end plugs shall have a minimum radius of 0,5 mm, or be edged or protected by foam or rubber.		P
4.10.4	Guided power operated external blinds — Injurious contacts in operation		N
4.10.4.1	General		N
	Crushing and shearing hazards shall be eliminated or reduced.		N
4.10.4.2	Determination of performance		N
	The requirements specified in 4.10.4.3 shall be fulfilled and, where appropriate, in accordance with the test methods specified in EN 12045.		N
4.10.4.3	Safety requirement		N
4.10.4.3.1	Protection of shearing areas of conservatory and pergola awnings		N

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Clause	Requirement	Remark	Result
	The shearing areas in question are essentially those existing with conservatory and pergola awnings when the front profile passes over each guiding roller (see Figure 5).		N
	The requirement is met if, at least, one of the following conditions is fulfilled:		N
	a) The front profile moves only by gravity with a mass lower than 15 kg;		N
	b) The transmitted force (operating force) of the front profile is less than 150 N or its speed is less than 0,10 m/s: $F < 150$ N or $V < 0,10$ m/s;		N
	In addition, a warning informing the end user on the risk of shearing shall be attached to the product in a prominent position. The warning shall draw attention that shearing risks may exist.		N
	c) The distance between the front profile and a guiding roller or any associated fixed obstacle is equal or greater than 0,07 m: $e \geq 0,07$ m;		N
	d) The conservatory awning has a hold-to-run control and the switch is incorporated in the product or installed in such a way that it allows the control in the direct view of the front profile;		N
	e) The shearing area is at a distance Z greater than or equal to 2,50 m from the floor or any other permanent access level: $Z \geq 2,50$ m;		N
	f) The conservatory or the pergola awning:		N
	1) either prevents contact in the shearing area;		N
	2) or limits the transmitted force to a value lower than 150 N and allows removal of the obstacle either by reversing the movement of the front profile or by stopping it. With that last solution, it shall be possible to lift up the front profile with a force lower than 25 N.		N
	Guards designed to protect from the mobile elements of transmission shall be fixed in such a way that they can be only dismantled with the use of a tool.		N
4.10.4.3.2	Protection in the crushing area of guided awnings		N
	The requirement is fulfilled if, at least, one of the following conditions is fulfilled:		N
	a) The front profile moves only by gravity with a mass lower than 15 kg;		N
	b) The transmitted force (operating force) of the front profile is less than 150 N or its speed is less than 0,10 m/s: $F < 150$ N or $V < 0,10$ m/s;		N
	In addition, a warning informing the end user on the risk of crushing shall be attached to the product in a prominent position. The warning shall draw attention that crushing risks may exist.		N
	c) The front profile is at least at 0,40 m from any fixed object;		N
	d) The awning has a hold-to-run control and the switch is incorporated in the product or installed in such a way that it allows the control in the direct view of the front profile;		N
	e) The front profile is at a distance Z greater than or equal to 2,50 m from the floor or from any other permanent access level: $Z \geq 2,50$ m;		N
	f) The awning:		N

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Clause	Requirement	Remark	Result
	1) either prevents contact in the crushing area (guards);		N
	2) or limits the transmitted force to a value lower than 150 N and allows removal of the obstacle either by reversing the movement of the front profile or by stopping it. With the last solution, it shall be possible to lift up the front profile with a force lower than 25 N.		N
	Guards designed to protect from the mobile elements of transmission shall be fixed in such a way that they can be only dismantled with the use of a tool.		N
4.10.5	Electric hazards		N
	The electric drives shall fulfil EN 60335-1 and EN 60335-2-97.		N
4.11	Additional thermal resistance ΔR		N
4.12	Total solar energy transmittance g_{tot}		P
4.13	Light transmittance characteristics		P
4.13.1	General		P
	Light transmittance characteristics of external blinds have a direct impact on the comfort of the building occupants and the use of daylight or artificial lighting.		P
4.13.2	Determination of performance		P
	The determination of performance shall be in accordance with the method specified in EN 14500.		P
4.13.3	Performance requirement		P
	The classification of external blinds according to the following criteria:		P
	—opacity control;		N
	—glare control;		N
	—night privacy;		N
	—visual contact with the outside;		P
	—daylight utilization		N
	shall be determined according to EN 14501. No minimal performance is required.		P
4.14	Materials		P
4.14.1	General		P
	This clause evaluates the ability of constituent materials of the external blind to fulfil the following requirements during an economically reasonable service life:		P
	—colour fastness;		P
	—no degradation of appearance;		N
	—resistance to breakage;		P
	—resistance to corrosion;		P
	—dimensional stability.		P
	Selected criteria are linked to the test methods described in 4.14.2 and 4.14.3. They specify the minimum properties to be fulfilled by constituent materials.		P

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Clause	Requirement	Remark	Result
4.14.2	Fabrics		N
4.14.2.1	Colour fastness		N
	Principle		N
	Compared to the initial state, the colour fastness shall be evaluated after a time of artificial ageing (weathering) defined by the classification presented in Table 9, according to the standard applicable to the fabric considered.		N
	Determination of performance		N
	Depending on the type of fabric, the following standards shall be used for the artificial ageing (weathering) testing:		N
	Textiles: EN ISO 105-B04		N
	Rubber or plastic-coated fabrics: EN 12280-2		N
	Requirement		N
	The fabric shall be classified according to the time of artificial ageing (weathering) at which, at least, the level 4 of the grey scale according to EN 20105-A02 has been reached.	Class 2	N
	For external blinds, class 2 shall be the minimum requirement.		N
4.14.2.2	Tensile resistance		N
	Determination of performance		N
	The tensile resistance shall be carried out according to:		N
	—EN ISO 1421 for rubber or plastic coated fabrics, or		N
	—EN ISO 13934-1 for all other types of textiles,		N
	—Depending on the type of fabric, the following standards shall be used for the artificial ageing (weathering) testing:		N
	—EN ISO 105-B04 for textiles,		N
	—EN 12280-2 for rubber or plastic-coated fabrics.		N
	Requirement		N
	The fabric shall be classified according to the time of artificial ageing (weathering).	Class 2	N
	The tensile resistance shall be greater than 100 daN in warp and 60 daN in weft after artificial ageing (weathering). The class is determined according to the time of ageing achieved.		N
	For external blinds, class 2 shall be the minimum requirement.		N
4.14.2.3	Dimensional stability		N
	General		N
	The evaluation of dimensional stability of fabrics consists of two separate tests:		N
	Test N°1, after artificial ageing (weathering): a sample is measured before and after ageing without application of any load;		N
	Test N°2, after loading: a sample is measured before and after application of a load without any artificial ageing (weathering).		N
	Test N°1, after artificial ageing (weathering)		N

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Clause	Requirement	Remark	Result
	After 1 000 h of artificial ageing (weathering) according to the relevant standard (EN ISO 105-B04 for textiles or EN 12280-2 for rubber or plastic-coated fabrics), the dimensional variations compared to the initial state shall be between the following limits:		N
	Warp: [-3 %, +1 %];		N
	Weft: [-1 %, +1 %];		N
	Test N°2, after loading		N
	The residual deformation is measured after traction application. The dimensional variations measured after 24 h loading 250 N on 100 mm, on sample 100 mm × 1 200 mm, warp way and weft according to Annex A shall be classified according to Table 11.		N
4.14.2.4	Resistance to water penetration		N
	Resistance to water penetration (Schopper test) shall be measured according to EN 20811. Stitches are not concerned.		N
	A new measurement is taken after simulation of effect of repeated showers.		N
	The sample shall be immersed in demineralised water during 3 periods of 8 h. Between each period, the sample is dried during 16 h exposure to the ambient air, the demineralised water being renewed completely at the beginning of each period of 8 h. The sample is then dried during 24 h at 20 °C 65 % Relative Humidity before measuring the water column.		N
	Resistance to water penetration shall not be reduced by more than 15 %.		N
4.14.3	Metals		P
	Requirements and classes for resistance to corrosion shall be in accordance with EN 1670, except as follows:		P
	The salt spray test according to ISO 9227 shall be carried out:		P
	—either on the different components and profiles used in the external blind, not assembled;		P
	—or on a complete small scale sample of external blind (minimum size 700 mm × 700 mm).		P
	Class of resistance of the metal parts of the product: the classes of corrosion C of the metal components of the products are expressed using the following principle: indoor/outdoor.		P
	When outdoor components are required to be class 4, indoor components shall be at least class 2.	Class 4	P
4.15	Dimensional tolerances		P
4.15.1	General		P
	Tolerances relate to the overall dimensions (height(s) and width(s)) of the product delivered compared to the ordered dimensions.		P
4.15.2	Determination of performance		P
	The dimensions are the overall dimensions of the product delivered		P
	The covered surface area of the fabric shall be given in the technical instructions of the manufacturer.		P

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Clause	Requirement	Remark	Result
4.15.3	Performance requirement		P
	The delivered width and height shall fall within the tolerances listed in Table 13 and Table 14, taken at the temperature of 23 °C ± 5 °C.		P
4.16	Bullet resistance		N
	External blinds claiming to have a minimum level of bullet resistance shall be evaluated according to EN 1522 and EN 1523.		N
5	Handling and storage		P
5.1	General		P
	This clause specifies requirements related to packaging, storage, handling and delivery of external blinds.		P
5.2	Determination of performance		P
	The requirements specified in 5.3 shall be fulfilled.		P
5.3	Performance requirement		P
	The external blind or each of its components shall be:		P
	able to be handled accordance with ISO 11228-3;		P
	Whenever possible, in case of manual handling, the mass per person should be not more than 25 kg.		P
	wrapped or designed to ensure storage without deterioration.		P
	Any special equipment for assembly, fixing and setting, e.g. appropriate fixing brackets shall be provided.		P
	Particular precautions shall be taken for all devices having potential energy stored capable to free violently when positioning. Thus, in the case of folding arm awnings, the arms and frameworks delivered without fabric, shall be so packaged that they cannot extend suddenly when unpacking, while the installer shall be warned of the danger by appropriate means.		P
6	Information for use		P
6.1	General		P
	Information for use shall be provided in accordance to EN ISO 12100. The following specific information shall be included in these instructions.		P
6.2	Signal and warning devices		N
	A warning device consisting for example, of the general danger warning pictogram according to EN 61310-1, with the supplementary label giving text information in the following sense "The operator's instruction shall be read before the use of the product", shall be attached to the arms of folding arm awning.		N
	Likewise, a general danger warning pictogram, with a supplementary label "The operator's instruction shall be read before the use of the product", shall be attached to the instructions for use, illustrating very clearly the situations where forced operation can damage the product.		N
6.3	Accompanying documents (in particular the instruction handbook)		P
6.3.1	General		P

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Clause	Requirement	Remark	Result
	Written instructions shall be provided in accordance to EN ISO 12100. The following specific information shall be included in these instructions.		P
6.3.2	Instructions for handling, unpacking and installation		P
6.3.2.1	General instructions		P
	The instructions shall include a repeat of the instructions with which the product is marked.		P
	The instructions shall clearly state when the procedure specified can be completed by non-professionals.		P
	The instructions shall include step by step, guidance on the correct sequence of operations to achieve a proper good and safe installation:		P
	—instructions for assembly, installation and fixing, i.e. the selection of the anchoring, installation conditions and limits;		P
	—the assembly phases;		P
	—any special requirements for storage;		P
	—the methods for safe handling of the external blind and its components, in particular for products delivered in items with high unit mass.		P
	The installation instructions shall state that the instructions for use shall be provided to the end user.		P
6.3.2.2	Additional instructions for power operated products		N
	The instructions shall include diagrams, drawings, etc., wherever necessary to give clarity to the instructions (especially when a wrong connection can be the cause of risks).		N
	The information on the operations to be carried out to programme an electronic switch or a clock shall be given in a clear manner.		N
	The instruction handbook shall draw the attention of the installer to the fact that modification of the design or configuration of the equipment shall not be made without consulting the manufacturer or his authorized representative.		N
	The instructions for external blinds controlled by an hold-to-run switch shall state that the switch shall be installed within sight of movement of the front profile but away from moving parts at a height in accordance with the national regulations concerning disabled people (preferably less than 1,30 m where possible).		N
	If a manual release is provided, the instructions shall state that the actuating member is to be accessible from a height lower than 1,80 m.		N
	In the case of installation in a windy area and with frequent power failures, the supplier will recommend a manual override device or a substitute power supply.		N
6.3.3	Instructions for use and maintenance		N
6.3.3.1	General instructions		N
	The instructions for use shall include the duties and conditions under which the external blind shall be used, in particular with regard to:		N
	—correct methods for operating the external blind;		N
	—explanation of the warning signs.		N

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Clause	Requirement	Remark	Result
	When use of the product can result in a dangerous situation the necessary information concerning the operation shall be stated without ambiguity and detailed in the operating instructions.		N
	The instructions shall state that the external blind shall be retracted in case the wind speed is higher than the speed declared by the manufacturer.		N
	The instructions shall state the maximum load for which the non retractable parts of the external blinds have been designed.		N
	The manufacturer shall inform the installer of the need to arrange a servicing of the product to ensure maintenance of the product itself or neighbouring elements.		N
	The manufacturer shall clearly indicate the items needing replacement, maintenance or verification and the frequency.		N
6.3.3.2	Additional specifications for power operated products		N
	Unless the instructions for use and maintenance in accordance with EN 60335-2-97 are provided, the instructions for use and maintenance shall state the substance of the following: IMPORTANT SAFETY INSTRUCTIONS WARNING – IT IS IMPORTANT FOR SAFETY OF PERSONS TO FOLLOW THESE INSTRUCTIONS SAVE THESE INSTRUCTIONS		N
	The instructions shall include the substance of the following:		N
	—Do not allow children to play with the control device of the blind. Keep remote control away from children;		N
	—Frequently examine the installation for signs of wear or damage to cables. Do not use if repair is necessary.		N
	The information on the operations to be carried out to programme an electronic switch or a clock shall be given in a clear manner.		N
	The instructions shall give details on how to use the manual release, if applicable, and the substance of the following:		N
	—Take care when operating the manual release with the external blind retracted since it may fall rapidly due to weak or broken springs.		N
	For external blinds, which can be operated from a position without view on the blind, the user shall take appropriate organisational measures for preventing operation of the blind when maintenance, such as window or wall cleaning, is being carried out in the vicinity.		N
	For an inspection or maintenance of the electrical parts, the external blind shall be disconnected from the energy supply in a reliable way.		N
	If the awning is equipped with a protective device, the instruction handbook shall draw the attention of the user on the fact that modification of the design or configuration of the equipment without consulting the manufacturer or his authorized representative may create a dangerous situation.		N

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Clause	Requirement	Remark	Result
	If the external blind is equipped with an autonomous electrical supply, the instruction handbook shall provide information regarding the durability and endurance of such a supply as well as instruction relating to care and maintenance. If any, the expected longevity of the battery shall be specified in years and/or number of cycles.		N
6.4	Marking		P
	The minimum marking is specified in Clause 8.	See Clause 8	P
7	Assessment and verification of constancy of performance - AVCP		P
7.1	General		P
	The compliance of external blinds and awnings with the requirements of this standard and with the performances declared by the manufacturer in the DoP shall be demonstrated by:		P
	—Determination of the product type;		P
	—Factory production control by the manufacturer, including product assessment.		N
	The manufacturer shall always retain the overall control and shall have the necessary means to take responsibility for the conformity of the product with its declared performance(s).		P
7.2	Type Testing		P
7.2.1	General		P
	All performances related to characteristics included in this standard shall be determined when the manufacturer intends to declare the respective performances unless the standard gives provisions for declaring them without performing tests.		P
	Assessment previously performed in accordance with the provisions of this standard, may be taken into account provided that they were made to the same or a more rigorous test method, under the same AVCP system on the same product or products of similar design, construction and functionality, such that the results are applicable to the product in question.		P
	For the purposes of assessment, the manufacturer's products may be grouped into families, where it is considered that the results for one or more characteristics from any one product within the family are representative for that same characteristics for all products within that same family.		P
	In addition, the determination of the product type shall be performed for all characteristics included in the standard for which the manufacturer declares the performance:		P
	—at the beginning of the production of a new or modified external blind and awning (unless a member of the same product range); or		P
	—at the beginning of a new or modified method of production (where this may affect the stated properties).		P

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Clause	Requirement	Remark	Result
	Products bearing regulatory marking in accordance with appropriate harmonized European specifications may be presumed to have the performances declared in the DoP, although this does not replace the responsibility on the external blind and awning manufacturer to ensure that the external blind and awning as a whole is correctly manufactured and its component products have the declared performance values.		P
7.2.2	Test samples, testing and compliance criteria	One sample	P
7.2.3	Test reports		P
	The results of the determination of the product type shall be documented in test reports. All test reports shall be retained by the manufacturer for at least 10 years after the last date of production of the external blind and awning to which they relate.		P
7.2.4	Shared other party results		P
	A manufacturer may use the results of the product type determination obtained by someone else (e.g. by another manufacturer, as a common service to manufacturers, or by a product developer), to justify his own declaration of performance regarding a product that is manufactured according to the same design (e.g. dimensions) and with raw materials, constituents and manufacturing methods of the same kind, provided that:		P
	—the results are known to be valid for products with the same essential characteristics relevant for the product performance;		P
	—in addition to any information essential for confirming that the product has such same performances related to specific essential characteristics, the other party who has carried out the determination of the product type concerned or has had it carried out, has expressly accepted to transmit to the manufacturer the results and the test report to be used for the latter's product type determination, as well as information regarding production facilities and the production control process that can be taken into account for FPC;		P
	—the manufacturer using other party results accepts to remain responsible for the product having the declared performances and he also:		P
	—ensures that the product has the same characteristics relevant for performance as the one that has been subjected to the determination of the product type, and that there are no significant differences with regard to production facilities and the production control process compared to that used for the product that was subjected to the determination of the product type; and		P
	—keeps available a copy of the determination of the product type report that also contains the information needed for verifying that the product is manufactured according to the same design and with raw materials, constituents and manufacturing methods of the same kind.		P
7.2.5	Cascading determination of the product type results		N

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Clause	Requirement	Remark	Result
	—For some construction products, there are companies (often called “system houses”) which supply or ensure the supply of, on the basis of an agreement ²), some or all of the components (e.g. in case of windows: profiles, gaskets, weather strips) ³) to an assembler who then manufactures the finished product (referred to below as the “assembler”) in his factory.		N
	Provided that the activities for which such a system house is legally established include manufacturing/assembling of products as the assembled one, the system house may take the responsibility for the determination of the product type regarding one or several essential characteristics of an end product which is subsequently manufactured and/or assembled by other firms in their own factory.		N
	When doing so, the system house shall submit an “assembled product” using components manufactured by it or by others, to the determination of the product type and then make the determination of the product type report available to the assemblers, i.e. the actual manufacturer of the product placed on the market.		N
	To take into account such a situation, the concept of cascading determination of the product type might be taken into consideration in the technical specification, provided that this concerns characteristics for which either a notified product certification body or a notified test laboratory intervene, as presented below.		N
	The determination of the product type report that the system house has obtained with regard to tests carried out by a notified body, and which is supplied to the assemblers, may be used for the regulatory marking purposes without the assembler having to involve again a notified body to undertake the determination of the product type of the essential characteristic(s) that were already tested, provided that:		N
	—The assembler manufactures a product which uses the same combination of components (components with the same characteristics), and in the same way, as that for which the system house has obtained the determination of the product type report. If this report is based on a combination of components not representing the final product as to be placed on the market, and/or is not assembled in accordance with the system house’s instruction for assembling the components, the assembler needs to submit his finished product to the determination of the product type;		N
	—The system house has notified to the manufacturer the instructions for manufacturing/assembling the product and installation guidance;		N
	—The assembler (manufacturer) assumes the responsibility for the correct assembly of the product in accordance with the instructions for manufacturing/assembling the product and installation guidance notified to him by the system house;		N
	—The instructions for manufacturing/assembling the product and installation guidance notified to the assembler (manufacturer) by the system house are an integral part of the assembler’s Factory Production Control system and are referred to in the determination of the product type report;		N

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Clause	Requirement	Remark	Result
	—The assembler is able to provide documented evidence that the combination of components he is using, and his way of manufacturing, correspond to the one for which the system house has obtained the determination of the product type report (he needs to keep a copy of the system house's determination of the product type report);		N
	—Regardless the possibility of referring, on the basis of the agreement signed with the system house, to the latter's responsibility and liability under private law, the assembler remains responsible for the product being in compliance with the declared performances, including both the design and the manufacture of the product, which is given when he affixes the regulatory marking on his product.		N
7.3	Factory Production Control (FPC)		N
7.3.1	General		N
	The manufacturer shall establish, document and maintain an FPC system to ensure that the products placed on the market comply with the declared performance of the essential characteristics.		N
	The FPC system shall consist of procedures, regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product.		N
	All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures.		N
	This factory production control system documentation shall ensure a common understanding of the evaluation of the constancy of performance and enable the achievement of the required product performances and the effective operation of the production control system to be checked. Factory production control therefore brings together operational techniques and all measures allowing maintenance and control of the compliance of the product with the declared performances of the essential characteristics.		N
	In case the manufacturer has used shared or cascading product type results, the FPC shall also include the appropriate documentation as foreseen in 7.2.4 and 7.2.5.		N
7.3.2	Requirements		N
7.3.2.1	General		N
	The manufacturer is responsible for organizing the effective implementation of the FPC system in line with the content of this product standard. Tasks and responsibilities in the production control organization shall be documented and this documentation shall be kept up-to-date.		N
	The responsibility, authority and the relationship between personnel that manages, performs or verifies work affecting product constancy, shall be defined. This applies in particular to personnel that need to initiate actions preventing product non-constancies from occurring, actions in case of non-constancies and to identify and register product constancy problems.		N

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Clause	Requirement	Remark	Result
	Personnel performing work affecting the constancy of performance of the product shall be competent on the basis of appropriate education, training, skills and experience for which records shall be maintained.		N
	In each factory the manufacturer may delegate the action to a person having the necessary authority to:		N
	—identify procedures to demonstrate constancy of performance of the product at appropriate stages;		N
	—identify and record any instance of non-constancy;		N
	—identify procedures to correct instances of non-constancy.		N
	The manufacturer shall draw up and keep up-to-date documents defining the factory production control. The manufacturer's documentation and procedures should be appropriate to the product and manufacturing process. The FPC system should achieve an appropriate level of confidence in the constancy of performance of the product. This involves:		N
	a) the preparation of documented procedures and instructions relating to factory production control operations, in accordance with the requirements of the technical specification to which reference is made;		N
	b) the effective implementation of these procedures and instructions;		N
	c) the recording of these operations and their results;		N
	d) the use of these results to correct any deviations, repair the effects of such deviations, treat any resulting instances of non-conformity and, if necessary, revise the FPC to rectify the cause of non-constancy of performance.		N
	Where subcontracting takes place, the manufacturer shall retain the overall control of the product and ensure that he receives all the information that is necessary to fulfil his responsibilities according to this European Standard.		N
	If the manufacturer has part of the product designed, manufactured, assembled, packed, processed and/or labelled by subcontracting, the FPC of the subcontractor may be taken into account, where appropriate for the product in question.		N
	The manufacturer who subcontracts all of his activities may in no circumstances pass these responsibilities on to a subcontractor.		N
7.3.2.2	Equipment		N
7.3.2.2.1	Testing		N
	All weighing, measuring and testing equipment shall be calibrated and regularly inspected according to documented procedures, frequencies and criteria.		N
7.3.2.2.2	Manufacturing		N
	All equipment used in the manufacturing process shall be regularly inspected and maintained to ensure use, wear or failure does not cause inconsistency in the manufacturing process. Inspections and maintenance shall be carried out and recorded in accordance with the manufacturer's written procedures and the records retained for the period defined in the manufacturer's FPC procedures.		N
7.3.2.3	Raw materials and components		N

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Clause	Requirement	Remark	Result
	The specifications of all incoming raw materials and components shall be documented, as shall the inspection scheme for ensuring their compliance. In case supplied kit components are used, the constancy of performance system of the component shall be that given in the appropriate harmonized technical specification for that component.		N
7.3.2.4	Traceability and marking		N
	Individual external blinds and awnings shall be identifiable and traceable with regard to their production origin. The manufacturer shall have written procedures ensuring that processes related to affixing traceability codes and/or markings are inspected regularly.		N
7.3.2.5	Controls during manufacturing process		N
	The manufacturer shall plan and carry out production under controlled conditions.		N
7.3.2.6	Product testing and evaluation		N
	The manufacturer shall establish procedures to ensure that the stated values of the characteristics he declares, are maintained. The characteristics, and the means of control, are:		N
	—Resistance to wind loads: shall be subject to the tests indicated in 4.1 at least once during the entire production period;		N
	—Total solar energy transmittance: shall be subject to the tests indicated in 4.12 at least once during the entire production period.		N
7.3.2.7	Non complying products		N
	The manufacturer shall have written procedures which specify how non-complying products shall be dealt with. Any such events shall be recorded as they occur and these records shall be kept for the period defined in the manufacturer's written procedures.		N
	Where the product fails to satisfy the acceptance criteria, the provisions for non-complying products shall apply, the necessary corrective action(s) shall immediately be taken and the products or batches not complying shall be isolated and properly identified.		N
	Once the fault has been corrected, the test or verification in question shall be repeated.		N
	The results of controls and tests shall be properly recorded. The product description, date of manufacture, test method adopted, test results and acceptance criteria shall be entered in the records under the signature of the person responsible for the control/test.		N
	With regard to any control result not meeting the requirements of this European Standard, the corrective measures taken to rectify the situation (e.g. a further test carried out, modification of manufacturing process, throwing away or putting right of product) shall be indicated in the records.		N
7.3.2.8	Corrective action		N
	The manufacturer shall have documented procedures that instigate action to eliminate the cause of nonconformities in order to prevent recurrence.		N

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Clause	Requirement	Remark	Result
7.3.2.9	Handling, storage and packaging		N
	The manufacturer shall have procedures providing methods of product handling and shall provide suitable storage areas preventing damage or deterioration.		N
7.3.3	Product specific requirements		N
	The FPC system shall address this European Standard and ensure that the products placed on the market comply with the declaration of performance.		N
	The FPC system shall include a product specific FPC, which identifies procedures to demonstrate compliance of the product at appropriate stages, i.e.:		N
	a) the controls and tests to be carried out prior to and/or during manufacture according to a frequency laid down in the FPC test plan; and/or		N
	b) the verifications and tests to be carried out on finished products according to a frequency laid down in the FPC test plan.		N
	If the manufacturer uses only finished products, the operations under b) shall lead to an equivalent level of compliance of the product as if FPC had been carried out during the production.		N
	If the manufacturer carries out parts of the production himself, the operations under b) may be reduced and partly replaced by operations under a). Generally, the more parts of the production that are carried out by the manufacturer, the more operations under b) may be replaced by operations under a).		N
	In any case the operation shall lead to an equivalent level of compliance of the product as if FPC had been carried out during the production.		N
	The operations under a) refer to the intermediate states of the product as on manufacturing machines and their adjustment, and measuring equipment etc. These controls and tests and their frequency shall be chosen based on product type and composition, the manufacturing process and its complexity, the sensitivity of product features to variations in manufacturing parameters etc.		N
	The manufacturer shall establish and maintain records that provide evidence that the production has been sampled and tested. These records shall show clearly whether the production has satisfied the defined acceptance criteria and shall be available for at least three years.		N
7.3.4	Procedure for modifications		N
	If modifications are made to the product, production process or FPC system that could affect any of the product characteristics declared according to this standard, then all the characteristics for which the manufacturer declares performance, which may be affected by the modification, shall be subject to the determination of the product type, as described in 7.2.1.		N
	Where relevant, a re-assessment of the factory and of the FPC system shall be performed for those aspects, which may be affected by the modification.		N
	All assessments and their results shall be documented in a report.		N

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Clause	Requirement	Remark	Result
7.3.5	One-off products, pre-production products (e.g. prototypes)		N
	The external blinds produced as a one-off, prototypes assessed before full production is established shall be assessed as follows.		N
	For type assessment, the provisions of 7.2.1, 3rd paragraph apply, together with the following additional provisions:		N
	—in case of prototypes, the test samples shall be representative of the intended future production and shall be selected by the manufacturer;		N
	—on request of the manufacturer, the results of the assessment of prototype samples may be included in a certificate or in test reports issued by the involved third party.		N
	The FPC system of one-off products shall ensure that raw materials and/or components are sufficient for production of the product. The provisions on raw materials and/or components shall apply only where appropriate. The manufacturer shall maintain records allowing traceability of the product.		N
	For prototypes, where the intention is to move to series production, the initial inspection of the factory and FPC shall be carried out before the production is already running and/or before the FPC is already in practice. The following shall be assessed:		N
	—the FPC-documentation; and		N
	—the factory.		N
	In the initial assessment of the factory and FPC it shall be verified:		N
	a) that all resources necessary for the achievement of the product characteristics included in this European Standard will be available, and		N
	b) that the FPC-procedures in accordance with the FPC-documentation will be implemented and followed in practice, and		N
	c) that procedures are in place to demonstrate that the factory production processes can produce a product complying with the requirements of this European Standard and that the product will be the same as the samples used for the determination of the product type, for which compliance with this European Standard has been verified.		N
	Once series production is fully established, the provisions of 7.3 shall apply.		N
8	Marking		P
	The minimum marking shall include:		P
	—business name and full address of the manufacturer and, where applicable, his authorized representative;		P
	—mandatory marking;		P
	—year of construction;		P
	—designation of the product;		P
	—designation of series or type, if any;		P
	—serial or identification number, if any;		N

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Clause	Requirement	Remark	Result
	—rating information (mandatory for electrical products voltage, frequency, power, etc.).		N
	When regulatory marking covers the same information listed above, the provisions of this clause are met.		P

APPENDIX 1: Photos

Photo documentation

Photo 1 Sample photo



Photo 2 Sample photo



APPENDIX 1: Photos

Photo 3 Sample photo



Photo 4 Sample photo



APPENDIX 1: Photos

Photo 5 Sample photo



Photo 6 Sample photo



APPENDIX 1: Photos

Photo 7 Sample photo

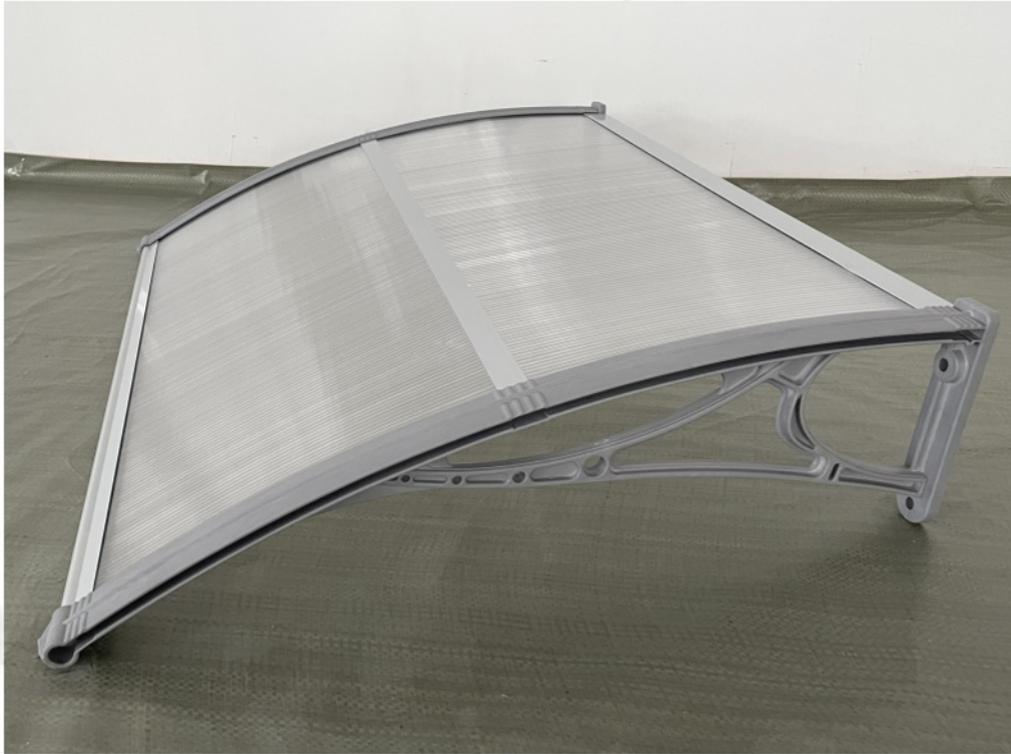
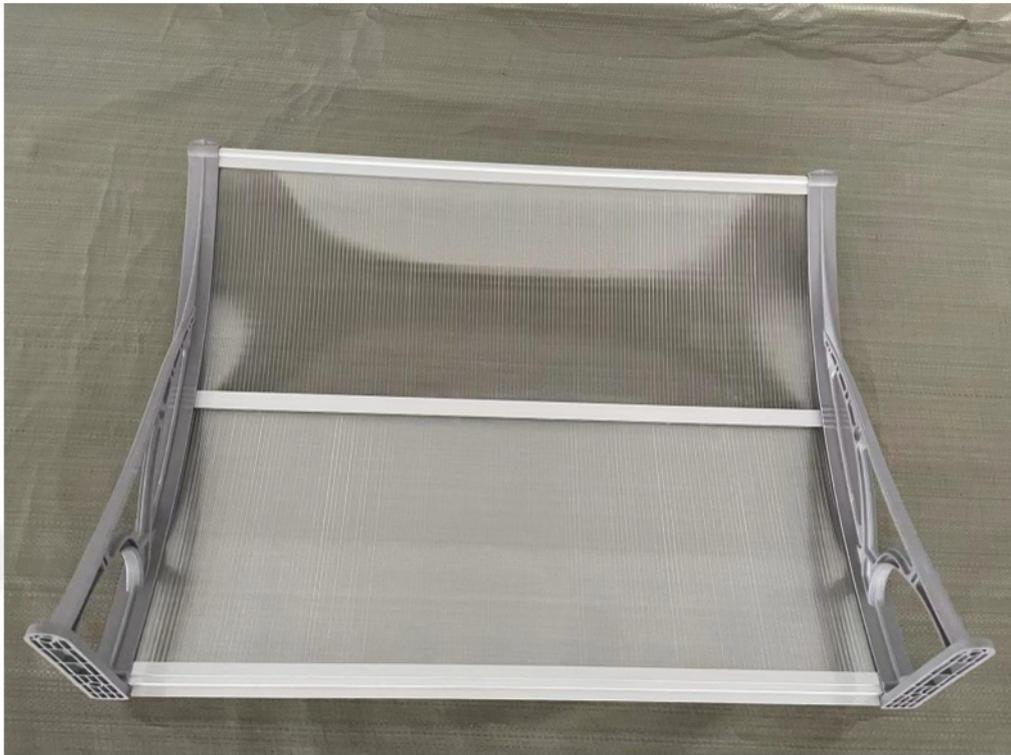


Photo 8 Sample photo



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