BS EN 13561:2015

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External blinds and awnings — Performance requirements including safety

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee B/538/3, Domestic shutters and blinds.

A list of organizations represented on this committee can be obtained on request to its secretary.

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External blinds and awnings - Performance requirements including safety

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Foreword

This document (EN 13561:2015) has been prepared by Technical Committee CEN/TC 33 “Doors, windows, shutters, building hardware and curtain walling”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2015 and conflicting national standards shall be withdrawn at the latest by February 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13561:2004+A1:2008.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA and Annex ZB, which are integral parts of this document.

This European Standard is a part of a series of standards dealing with blinds and shutters for buildings as defined in EN 12216.

The major modifications to the previous edition are:

— the scope has been modified to integrate Pergola awnings;

— 4.1 “Resistance to wind loads” has been modified and has been aligned with the revised version of EN 1932 “Test methods”;

— 4.2 “Resistance of non retractable elements to pressure loads” has been added to integrate requirements on external blinds and awnings in the retracted position;

— 4.6 “Operating mechanism - Diagrams HPV (“Human Pull Value”)”, the use of the HPV diagram has been clarified;

— 4.11 “Additional thermal resistance ΔR” has been clarified;

— 4.12 “Total solar energy transmittance g_{tot}” has been added;

— 4.14 “Materials“, the part related to fabrics has been reviewed completely and EN ISO 105-B04 and EN 12280-2 have been integrated. Requirements for metals have been clarified;

— Clause 7 “Assessment and verification of constancy of performance - AVCP” has been aligned with the European template;

— Annex B “List of significant machine hazards” has been modified and EN ISO 12100 has been introduced;

— Annex C “Example of calculation for the wind resistance determination on fixed parts of external blinds in retracted position” has been added;

— Annex ZA has been modified to introduce a new mandated characteristic: the total solar energy transmittance g_{tot} and revised in accordance with requirements of the CPR.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document is a type C standard as stated in EN ISO 12100.

The machinery concerned, i.e. power operated products, and the extent to which hazards, hazardous situations and hazardous events are covered are indicated in the scope of this document.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of this type C standard.

1 Scope

This European Standard specifies the performance requirements for blinds and awnings intended to be fitted externally to buildings and other construction works. It deals also with the significant hazards for assembly, transport, installation, operation and maintenance (see list of significant machine hazards in Annex B).

It applies to all external blinds and awnings whatever their design and nature of the materials used, as follows and defined in EN 12216:

— folding arm awning, trellis arm awning, pivot arm awning, slide arm awning, vertical roller blind, marquisolette, façade awning, skylight awning, conservatory awning, Pergola awning, Dutch awning, insect screen; brise-soleil.

This European Standard does not cover the wind resistance of non-retractable products, e.g. Dutch awnings and brise-soleil.

The structural part to which the Pergola awning is fixed is not covered.

The products covered by this European Standard may be operated manually, with or without compensating springs or by means of electric motors (power operated products). However, the durability and endurance of the autonomous supply for power operated external blinds and awnings not connected to the mains supply are not covered.

This European Standard deals also with all significant hazards, hazardous situations and events when external blinds and awnings are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Annex B).

This European Standard covers external blinds and awnings mounted externally. In case such products are installed internally, they should fulfil all relevant safety requirements defined in EN 13120.

The noise emission of power operated external blinds and awnings is not considered to be a relevant hazard according to the machinery health and safety requirements. Therefore this European Standard does not contain any specific requirements on noise health and safety objective.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1522, *Windows, doors, shutters and blinds - Bullet resistance - Requirements and classification*

EN 1523, *Windows, doors, shutters and blinds - Bullet resistance - Test method*

EN 1670, *Building hardware - Corrosion resistance - Requirements and test methods*

EN 1932, *External blinds and shutters - Resistance to wind loads - Method of testing and performance criteria*

EN 1933, *Exterior blinds - Resistance to load due to water accumulation - Test method*

EN 12045, *Shutters and blinds power operated - Safety in use - Measurement of the transmitted force*

EN 12194, *Shutters, external and internal blinds - Misuse - Test methods*

EN 12216, *Shutters, external blinds, internal blinds - Terminology, glossary and definitions*

EN 13125, *Shutters and blinds - Additional thermal resistance - Allocation of a class of air permeability to a product*

EN 13527, *Shutters and blinds - Measurement of operating force - Test methods*

EN 14201, *Blinds and shutters - Resistance to repeated operations (mechanical endurance) - Methods of testing*

EN 20105-A02, *Textiles - Tests for colour fastness - Part A02: Grey scale for assessing change in colour (ISO 105-A02:1993)*

EN 20811, *Textiles - Determination of resistance to water penetration - Hydrostatic pressure test*

EN 60335-1, *Household and similar electrical appliances - Safety - Part 1: General requirements (IEC 60335-1)*

EN 60335-2-97, *Household and similar electrical appliances - Safety - Part 2-97: Particular requirements for drives for rolling shutters, awnings, blinds and similar equipment (IEC 60335-2-97)*

EN 61310-1, *Safety of machinery - Indication, marking and actuation - Part 1: Requirements for visual, acoustic and tactile signals (IEC 61310-1)*

EN ISO 105-B04, *Textiles - Tests for colour fastness - Part B04: Colour fastness to artificial weathering: Xenon arc fading lamp test (ISO 105-B04)*

EN ISO 139, *Textiles - Standard atmospheres for conditioning and testing (ISO 139)*

EN ISO 1421, *Rubber- or plastics-coated fabrics - Determination of tensile strength and elongation at break (ISO 1421)*

EN ISO 10077-1, *Thermal performance of windows, doors and shutters - Calculation of thermal transmittance - Part 1: General (ISO 10077-1)*

EN ISO 12100, *Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100)*

EN ISO 13934-1, *Textiles - Tensile properties of fabrics - Part 1: Determination of maximum force and elongation at maximum force using the strip method (ISO 13934-1)*

ISO 9227, *Corrosion tests in artificial atmospheres - Salt spray tests*

ISO 11228-3, *Ergonomics - Manual handling - Part 3: Handling of low loads at high frequency*

3 Terms and definitions

For the purposes of this document, the terms and definitions in EN ISO 12100 and EN 12216 and the following apply.

3.1
external blinds / awnings
product, where the curtain is made of a flexible material, installed to provide or modify characteristics such as thermal and visual properties of an existing glazed surface (e.g. window, door) to which it is applied

Note 1 to entry: If not specified otherwise, the term “external blind” used in this document refers to any type of external blinds or awnings included in the scope of this European Standard.

3.2
intrinsic performance
overall performances of the blind regardless of its application as opposed to specific performance

3.3
specific performance
performance which may be additional and complementary to the intrinsic performances and refers to a specific product (for example thermal, etc.)

3.4
curtain
part of the product which is set in motion by the operating mechanism and ensures its function

3.5
extension/retraction
movement of the curtain resulting in an increase/decrease in the surface area covered

3.6
opening/closing
terms used to describe the increase in light (opening) or reduction of light (closing) in an extended position for products with laths, slats or louvres which can be tilted or adjusted

3.7
rough operation
sharp action on the operating mechanism or directly on the curtain, resulting in excessive speed at the beginning and a sudden stop at the end

Note 1 to entry: Rough operation is only possible if the moving part has significant inertia (mass and speed).

3.8
forced operation
excessive force exerted on the operating mechanism or directly on the curtain with the aim of causing movement in spite of resistance to the travel of the curtain

3.9
reversed operation
extension or retraction of the curtain occurring in the opposite direction to that intended without use of abnormal force

3.10
winch handle
operating mechanism consisting of a reel rotated by an operation handle which allows accumulation of a cord, cable or chain

3.11
gear with crank handle
operating mechanism consisting of a gear attached to an axle, a drive shaft, an universal joint, a rotating rod and a crank handle

3.12
one direction movement of the operating mechanism
operating mechanism operated by a single cord, belt, etc., extension / retraction being effected by relying on gravity or the potential energy stored up during retraction / extension (respectively)

3.13
endless movement of the operating mechanism
operating mechanism operated by a loop, movement in one direction extends the curtain (or tilts the laths) and in the reverse retracts the curtain (or tilts the laths) in the opposite direction

3.14
determination of performance
means of verification of the performance relating to the corresponding requirement

4 Product characteristics

4.1 Resistance to wind loads

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.

Wind resistance is specified through classes defined by threshold values of nominal pressure p_N and safety pressure $p_S = \gamma \times p_N$ with $\gamma = 1,2$:

— Nominal wind pressure p_N: it represents the wind pressure under which the external blind shall not sustain deformation or deterioration detrimental to its correct operation.

— Safety wind pressure p_S: it represents the wind pressure under which no deterioration which may be dangerous for the persons shall be observed (e.g. breakage, exit from guiding tracks in case of guided blinds).

When tested according to EN 1932, the wind resistance class of external blinds shall be given according to Table 1.

Table 1 — Classes of wind resistance

Classes	0	1	2	3	4	5	6
Nominal wind pressure p_N (N/m^2)	< 40	40	70	110	170	270	400
Safety wind pressure p_S (N/m^2)	< 48	48	84	132	204	234	480

Table 1 applies to all external blinds. However, the maximum class allowed for folding arm awnings shall be class 2. Classes from 4 to 6 are only allowed for external blinds with fabric running in lateral guide rails and Pergola awnings.

NOTE 1 This maximum class for folding arm awnings has been defined to take into account the resistance of the fixing system and the dynamic effect of the wind.

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.

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).

NOTE 2 The conditions to be met in order to fulfil the performance requirement are based on static loads and do not consider the dynamic effect of repeated loads (turbulences) to which the fabric and the frame are submitted in an actual situation. Therefore, the static pressure cannot be used to define the anchoring of the external blinds on the building.

4.2 Resistance of non retractable elements to pressure loads

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:

— the installation condition,

— the height of the building,

— the location of the building.

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).

NOTE 1 As the criteria determining the resulting pressure applied to the fixed parts of external blinds are depending on installation conditions (location, height,…). National rules – if available – can give such information on the basis of National wind speed map.

When calculated according to the following methodology:

a) determine the weakest point of the external blind;

b) determine the maximum surface where wind stress can be applied;

c) determine the worst case angle where the wind can apply;

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.

NOTE 2 An example of determination of wind stress applied is given in Annex C.

4.3 Resistance to snow load (non retractable external blinds only)

The resistance to snow load of non retractable external blinds shall be justified by calculation according to the relevant regulation, e.g. Eurocode 3 for steel structures or Eurocode 9 for aluminium structures.

4.4 Resistance to water pocket

4.4.1 General

This clause is only applicable to folding arm awnings, trellis arm awnings, Dutch awnings and Pergola awnings.

Under the action of precipitation, the external blind may retain water forming a pocket of water. The external blind shall withstand the corresponding load.

4.4.2 Determination of performance

The determination of performance shall be in accordance with the test method specified in EN 1933.

4.4.3 Performance requirement

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.

After releasing the load and drying of the fabric, the operating effort shall be maintained inside the class.

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.

4.4.4 Performance classes

The performance classes are given in Table 2.

Table 2 — Resistance to water pocket — Performance classes

Classes	1	2
Flow	17 l/m^2 per hour	56 l/m^2 per hour

4.5 Operating effort

4.5.1 General

This clause does not apply to power operated products.

The effort F_C needed to extend / retract the curtain and to tilt the laths depends on the type of operation.

4.5.2 Determination of performance

The determination of performance shall be in accordance with the test methods specified in EN 13527.

4.5.3 Performance requirement and operating effort classes

4.5.3.1 General

The operating effort F_C shall not exceed the values specified in Table 3.

Table 3 — Maximum values of the operating effort F_C

Types of operation		F_C (N)	
		Class 1	Class 2
Crank or winch handle [a]		30	15
Belt, cord or chain [a,b]		90	50
Rod operation, hand	vertical plane	90	50
	horizontal or sloping plane	50	30
For spring loaded systems, 1,5 F_c may be reached for locking in the fully extended or retracted position. A blind belongs to class 2 if both the operations of extending / retracting the blind and tilting the laths belong to class 2. Otherwise the blind is class 1. [a] Operation mechanism shall also fulfil the requirements in 4.7. [b] One direction movement and endless movement of the operating mechanism.			

4.5.3.2 Specific case for folding arm awnings (see Figure 1)

The class of operating effort F_c shall be specified by two values:

$$F_C = \{F_{CP}, F_{CN}\}$$

where

F_{CP} is the maximum value of the peak force, needed to unlock the arms during the first round of the roller tube in retraction, the folding arm awning being in the fully extended position;

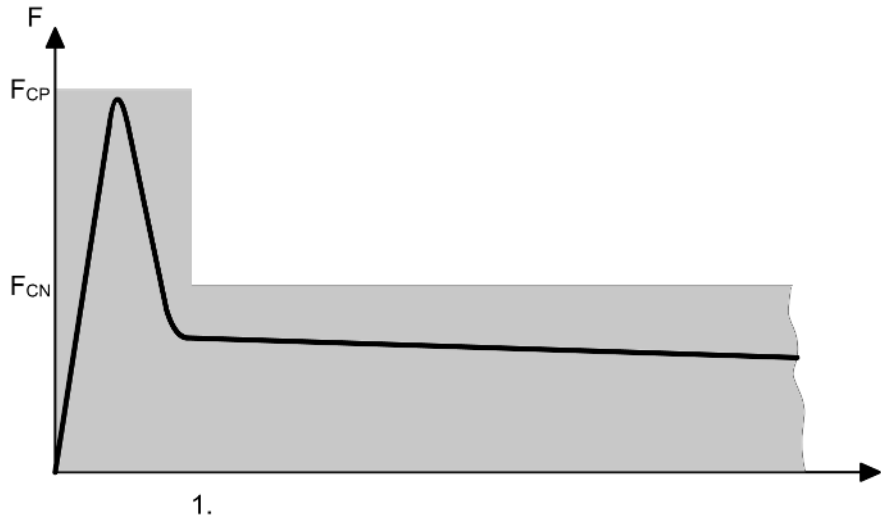
F_{CN} is the maximum value of the operating effort, needed during the remaining travel (retraction and extension).

The maximum values for F_C are given in Table 4.

Table 4 — Maximum values for F_C in case of folding arm awning

Crank handle operation	$F_c = \{F_{CP}, F_{CN}\}$ (N)			
	Class 1	Class 2	Class 3	Class 4
	{90, 30}	{60, 15}	{30, 30}	{15, 15}

NOTE Class 3 and class 4 characterize operations without peak force.



Key

1 rounds of roller tube

2 F_{CN} value

3 F_{CP} value

Figure 1 — Folding arm awning — Characterization of a class of operating force with peak

4.6 Operating mechanism — Diagrams HPV (“Human Pull Value”)

4.6.1 General

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.

4.6.2 Performances requirements

Gear operation

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).

NOTE A maximum reduction ratio of 1:10 means it is necessary to make 10 turns or less of the crank to achieve one rotation of the roller tube or axle.

Belt, cord or chain operation

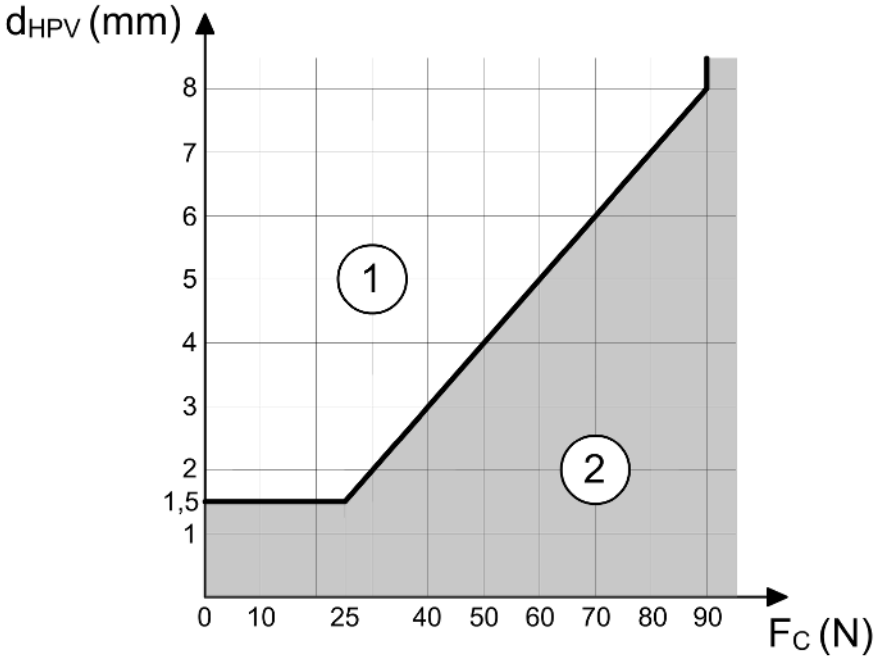
These operating mechanisms shall have the minimal dimensions specified in the HPV diagrams (see Figure 2 and Figure 3).

Apparent cord diameter for HPV

for n cords with diameter d

d is the diameter of a single cord

	n	d_{HPV}
●	1	1d
●●	2	1,5d
●● ●	3	2d
●● ●●	4	2,4d
●● ●●●	5	2,7d
●● ●●●	6	6d



Key

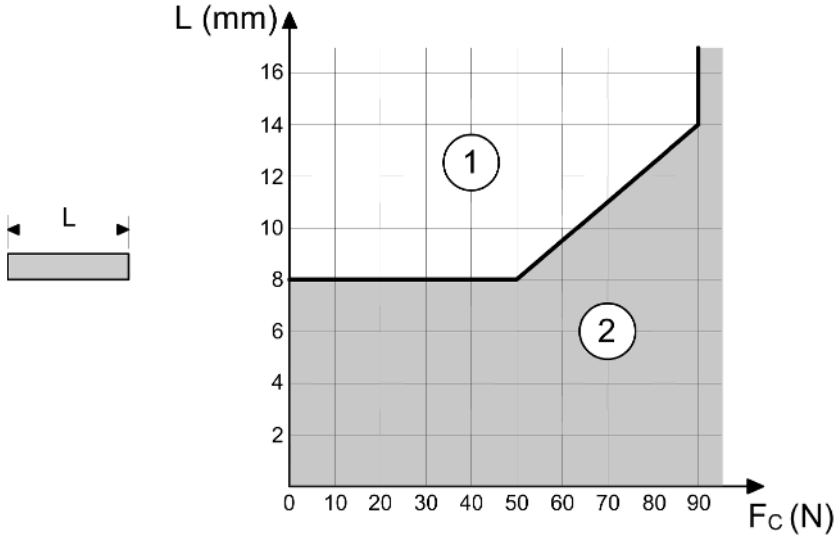
1 acceptable

2 non acceptable

F_C operating effort

Figure 2 — HPV Diagrams for cord or chain operation

For a given diameter d of a single cord and the number n of cords known, the d_{hpv} (in mm) can be determined by use of the table in Figure 2. The diameter calculated can be tested against the diagram at Figure 2 to determine the acceptability relative to the operating effort.



Key

1 acceptable

2 non acceptable

F_C operating effort

Figure 3 — HPV Diagram for belt operation

4.7 Resistance in case of misuse

4.7.1 Curtain and laths

4.7.1.1 General

Under the action of abnormal but foreseeable use (misuse), the external blind shall not become misshapen or damaged to the extent that:

a) the damage impairs its correct operation;

b) the damage which leads to a deterioration in appearance.

Misuse operations are related to the displacement of the curtain and to the tilting of the laths.

4.7.1.2 Displacement of the curtain

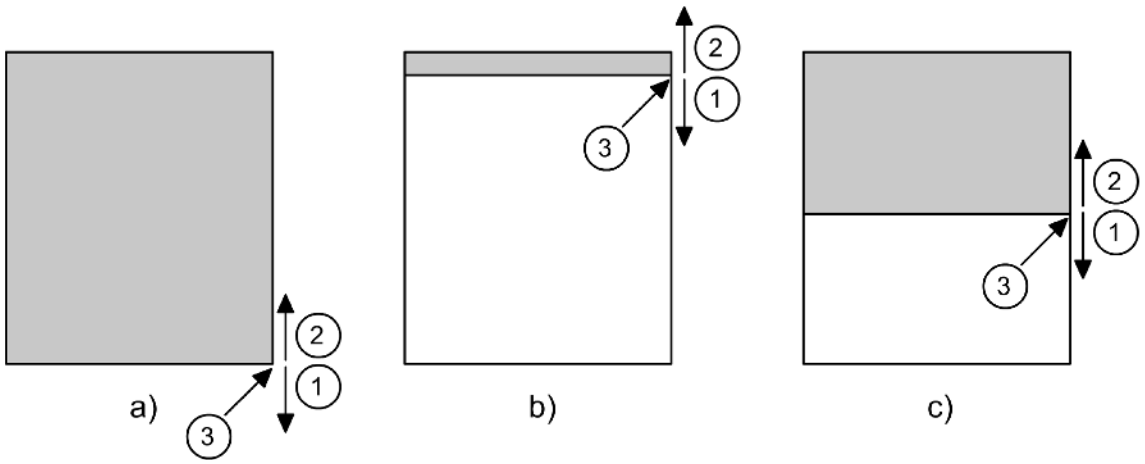
— **Rough operation**

Rough operation occurs during extension and retraction.

— **Forced operation**

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.

Figure 4 illustrates the six possibilities of forced operations.



Key

1 direction of extension

2 direction of retraction

3 obstruction

a curtain fully extended

b curtain fully retracted

c curtain in intermediate position, obstructed during extension and/or retraction

Figure 4 — Illustration of the six possibilities of forced operation

In the case of the folding arm awning, only the situations a1 and b2 shall be taken into account.

— **Reversed operation**

Reversed operations are only applicable to roller blinds or to products using a rolling mechanism for extension or retraction.

For these products, operation in situation a1 or b2 illustrated in Figure 4, is a reversed operation when the movement in the opposite direction is possible with an effort less than the limit of the class of operation. If the movement is not possible, it is a forced operation.

Reversed operation occurs on extension with the curtain fully extended and on retraction with the curtain fully retracted.

4.7.1.3 Tilting of the laths

— **Rough operation**

Rough operation is not possible, the conditions defining its occurrence are not likely to occur (no excessive speed, no inertia of laths).

— **Forced operation**

Forced operation occurs in both closed positions which are the result of tilting the laths in both directions from the open position.

— **Reversed operation**

Not applicable.

4.7.2 Determination of performance

The determination of performance shall be in accordance with the test methods specified in EN 12194.

4.7.3 Performance requirement

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:

— 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;

— and, for manual operation, the value of operating effort shall be maintained within the limit of the initial class.

Some external blinds are not designed to withstand an obstruction of the curtain in situations defined in a2, b1, c1 and c2 illustrated at Figure 4. They will not be subjected to the corresponding tests if the technical instructions of the manufacturer have a warning to the user about the risk of damage in case the curtain is obstructed in these situations.

Table 5 — Values of misuse efforts by type of operation

Effort of misuse operation		**Misuse operations**
Force (N)	**Torque (Nm)**	
$P_B = 2\ F_C$	Not applicable [a]	rough
Movement of curtain / Tilting of laths		
$P_F = 180$	$C_F = 60 \times R$ [b]	forced [c d]
$P_I \leq F_C$	$C_I \leq F_C \times R$	reversed
F_C = value of the operating effort of the class obtained *P* = exerted misuse force C = exerted misuse torque $_B$ = rough, $_F$ = forced, $_I$ = reversed R = maximum length of crank handle described in the technical instructions of the manufacturer with R ≤ 0,20 m		
[a] Operation by gear is never rough. [b] In the case of folding arm awning, $C_F = 120 \times R$ in situations a1 and b2 of Figure 3. [c] If the operating mechanism is equipped with a system which limits the force or the torque, the values of P_F and C_F are those given by this system. [d] For power operated operations, the effort to be applied is the one produced by the motor.		

NOTE There are no performance classes.

4.8 Mechanical endurance (repeated operation cycles)

4.8.1 General

This clause evaluates the ability of the external blind to withstand a number of operating cycles corresponding to a given usage:

— the curtain: one cycle corresponds to a complete operation of extension and retraction including the rest times;

— 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.

4.8.2 Determination of performance

The determination of performance shall be in accordance with the test methods specified in EN 14201.

4.8.3 Performance requirement

4.8.3.1 General

After carrying out the cycles related to the appropriate class, the following requirements shall be fulfilled.

4.8.3.2 Manual operation

— 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;

— The appearance criteria shall be fulfilled: no onset of tearing of fabric, no splitting of seams, no permanent damage to front profile or guiderails;

— Operating mechanisms shall not sustain significant damage.

NOTE The capability for use of a gear with crank handle, supplied on the market, intended to be incorporated in an external blind may be determined according to EN 14203. Using gear with crank handle conforming to EN 14203 may allow external blind manufacturers to reach a higher endurance class.

4.8.3.3 Power operated operation

— **Variation of the speed under load**

The ratio $\frac{|T_1 - T_2|}{T_1} \times 100$ shall be less than or equal to 20 %

where

T_1 is the time needed for a complete retraction of the curtain, measured at the beginning of the endurance test, after five cycles of functioning.

T_2 is the time needed for a complete retraction of the curtain measured at the end of the endurance test.

— **Accuracy of the positions of limit stops**

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.

Table 6 — Power operated products — Accuracy of the positions of limit stops

Motorisation type	Limit stops drift	
	Class 1	Class 2
Tubular	±15°	±5°
Square	±10°	±3°

— **Characteristics of the mechanical brake**

— Stopping the movement of the curtain shall not lead to an angular displacement of more than 20°.

— 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.

NOTE A mechanical brake is a brake applied mechanically by stored energy (spring force) until released with an external sustained electrical power supply under the control of the operator or automatically.

— **Grease and oil traces**

There shall be no visible traces of grease and oil.

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.

4.8.4 Classes of endurance

Table 7 gives the number of cycles corresponding to the three endurance classes specified.

Table 7 — Classes of endurance

Number of cycles	Class 1	Class 2	Class 3
Extension / retraction	3 000	7 000	10 000
Tilting	6 000	14 000	20 000

NOTE Class 2 corresponds to 10 years use with 2 cycles per day.

4.9 Operation in frosty conditions

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.”

4.10 Safety in use

4.10.1 General

The significant machinery hazards related to power operated external blinds are listed in Annex B.

4.10.2 Falling of persons

4.10.2.1 General

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.

4.10.2.2 Determination of performance

The requirement specified in 4.10.2.3 shall be fulfilled.

4.10.2.3 Safety requirement

A supervised control priority locking device shall be capable of preventing all operation.

4.10.3 Protection from potentially harmful parts

4.10.3.1 General

A contact between the user and the external blind and its parts shall not cause any injury.

4.10.3.2 Determination of performance

The requirements specified in 4.10.3.3 shall be fulfilled.

4.10.3.3 Safety requirement

Elements which may come into contact with passers-by or users, shall not present any sharp or projecting edges, likely to cause injury.

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.

4.10.4 Guided power operated external blinds — Injurious contacts in operation

4.10.4.1 General

Crushing and shearing hazards shall be eliminated or reduced.

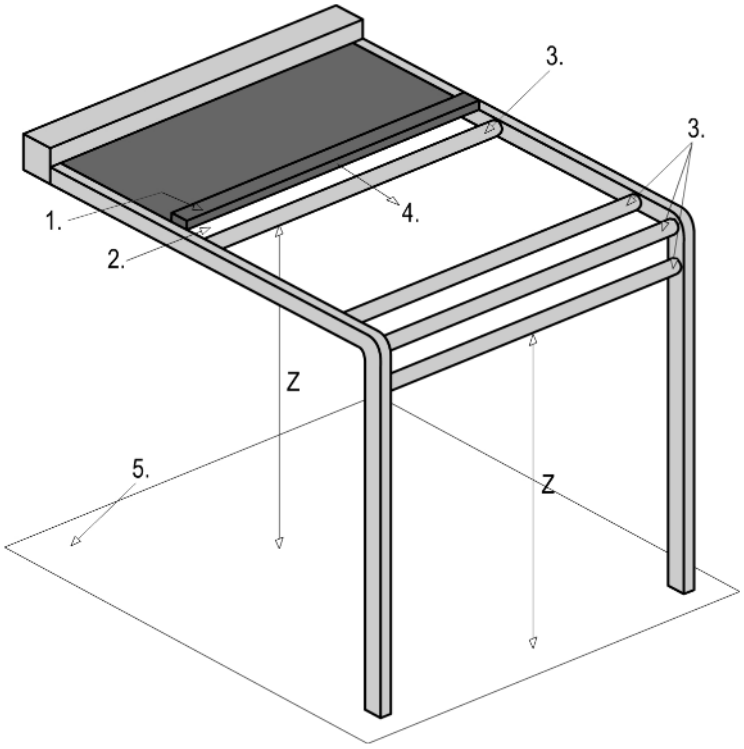
4.10.4.2 Determination of performance

The requirements specified in 4.10.4.3 shall be fulfilled and, where appropriate, in accordance with the test methods specified in EN 12045.

4.10.4.3 Safety requirement

4.10.4.3.1 Protection of shearing areas of conservatory and pergola awnings

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).



Key

1 front profile

2 shearing area

3 guiding rollers

4 transmitted force F

5 floor level

Z distance from the floor

Figure 5 — Conservatory awning — Shearing area defined by the passage of the front profile at each guiding roller

The requirement is met if, at least, one of the following conditions is fulfilled:

a) The front profile moves only by gravity with a mass lower than 15 kg;

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;

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.

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;

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;

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;

f) The conservatory or the pergola awning:

1) either prevents contact in the shearing area;

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.

Guards designed to protect from the mobile elements of transmission shall be fixed in such a way that they can be only dismounted with the use of a tool.

4.10.4.3.2 Protection in the crushing area of guided awnings

The requirement is fulfilled if, at least, one of the following conditions is fulfilled:

a) The front profile moves only by gravity with a mass lower than 15 kg;

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;

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.

c) The front profile is at least at 0,40 m from any fixed object;

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;

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;

f) The awning:

1) either prevents contact in the crushing area (guards);

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.

Guards designed to protect from the mobile elements of transmission shall be fixed in such a way that they can be only dismounted with the use of a tool.

4.10.5 Electric hazards

The electric drives shall fulfil EN 60335-1 and EN 60335-2-97.

4.11 Additional thermal resistance ΔR

The installation of a vertical external blind in the extended and closed position in front of a window, produces an additional thermal resistance ΔR in m^2K/W. which depends on the thickness and peripheral ventilation gaps of the air layer between the window and the external blind.

When calculated according to the method specified in EN ISO 10077-1, on the basis of the air permeability of the external blind determined according to EN 13125, the value of the additional thermal resistance ΔR of the external blind expressed in $m^2.K/W$ shall be determined.

4.12 Total solar energy transmittance g_{tot}

The limitation of solar gains is one of the most important aspects of summer thermal comfort. The solar gains are directly proportional to the total solar energy transmittance g_{tot}. g_{tot} depends on the glazing and the external blind.

When calculated according to EN 13363-1, on the basis of the material properties determined according to EN 14500, the value of the total solar energy transmittance g_{tot} of an external blind shall be determined according to the conditions given in EN 14501. Tolerances given in EN 13363-1 may be considered for the declaration of the g_{tot} value.

NOTE 1 For the calculation of the solar factor g_{tot}, EN 14501 defines four reference glazing. When the glazing that has been used for the calculation is not specified by the manufacturer, EN 14501 defines by default the glazing C (4 mm Float + 16 mm space + 4 mm Float, with low emissivity coating in position 3, space filled with argon, solar factor of the glazing alone g = 0,59).

NOTE 2 A definition of the total solar energy transmittance is given in EN 14501.

4.13 Light transmittance characteristics

4.13.1 General

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.

4.13.2 Determination of performance

The determination of performance shall be in accordance with the method specified in EN 14500.

4.13.3 Performance requirement

The classification of external blinds according to the following criteria:

— opacity control;

— glare control;

— night privacy;

— visual contact with the outside;

— daylight utilization

shall be determined according to EN 14501. No minimal performance is required.

4.14 Materials

4.14.1 General

This clause evaluates the ability of constituent materials of the external blind to fulfil the following requirements during an economically reasonable service life:

— colour fastness;

— no degradation of appearance;

— resistance to breakage;

— resistance to corrosion;

— dimensional stability.

Table 8 defines specific requirements for different constituent materials:

Table 8 — Requirements for constituent materials

Requirements					
Material	**Colour**	**Aspect**	**Resistance**	**Corrosion**	**Dimensional stability**
Fabrics	■		■		■
Metal				■	

Only the requirements described by a ■ are covered by this standard.

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.

4.14.2 Fabrics

4.14.2.1 Colour fastness

Principle

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.

Determination of performance

Depending on the type of fabric, the following standards shall be used for the artificial ageing (weathering) testing:

Textiles: EN ISO 105-B04

Rubber or plastic-coated fabrics: EN 12280-2

Requirement

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. The classification is presented in Table 9.

Table 9 — Classification of colour fastness

Class	1	2	3	4
Time of exposure	500 h	1 000 h	2 000 h	4 000 h

For external blinds, class 2 shall be the minimum requirement.

NOTE 1 Class 1 (500 h of exposure) is only applicable to internal blinds as specified in EN 13120.

NOTE 2 The use of blue standard specimen is not necessary because of the times of exposure defined for each class.

NOTE 3 The level 4 of contrast according to EN 20105-A02 corresponds generally to a colorimetric difference ΔE less or equal to 2 according to ISO 7724-1, ISO 7724-2 and ISO 7724-3.

4.14.2.2 Tensile resistance

Determination of performance

The tensile resistance shall be carried out according to:

— EN ISO 1421 for rubber or plastic coated fabrics, or

— EN ISO 13934-1 for all other types of textiles,

— Depending on the type of fabric, the following standards shall be used for the artificial ageing (weathering) testing:

— EN ISO 105-B04 for textiles,

— EN 12280-2 for rubber or plastic-coated fabrics.

Requirement

The fabric shall be classified according to the time of artificial ageing (weathering).

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. The classification is given in Table 10.

Table 10 — Classification of tensile resistance

Class	1	2	3	4
Time of exposure	500 h	1000 h	2000 h	4000 h

For external blinds, class 2 shall be the minimum requirement.

NOTE Class 1 (500 h of exposure) is only applicable to internal blinds as specified in EN 13120.

4.14.2.3 Dimensional stability

General

The evaluation of dimensional stability of fabrics consists of two separate tests:

— Test N°1, after artificial ageing (weathering): a sample is measured before and after ageing without application of any load;

— Test N°2, after loading: a sample is measured before and after application of a load without any artificial ageing (weathering).

Test N°1, after artificial ageing (weathering)

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:

— Warp: [-3 %, +1 %];

— Weft: [-1 %, +1 %];

Test N°2, after loading

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.

Table 11 — Classification of dimensional variations after loading

	Class 1		Class 2	
	In wrap	In weft	In wrap	In weft
Total change in length under load	≤ 15 mm	≤ 45 mm	≤ 12 mm	≤ 41 mm
Residual increase in length, load released	≤ 6 mm	≤ 25 mm	≤ 1 mm	≤ 16 mm
Residual reduction in width, load released	1 mm	1 mm	0 mm	0 mm

4.14.2.4 Resistance to water penetration

Resistance to water penetration (Schopper test) shall be measured according to EN 20811. Stitches are not concerned.

A new measurement is taken after simulation of effect of repeated showers.

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.

Resistance to water penetration shall not be reduced by more than 15 %.

4.14.3 Metals

Requirements and classes for resistance to corrosion shall be in accordance with EN 1670, except as follows:

The salt spray test according to ISO 9227 shall be carried out:

— either on the different components and profiles used in the external blind, not assembled;

— or on a complete small scale sample of external blind (minimum size 700 mm × 700 mm).

The classes of resistance to corrosion of metals used shall be as specified in Table 12.

Table 12 — Classes of resistance to corrosion

	Classes			
	1	**2**	**3**	**4**
Indoor components	24 h	48 h		
Outdoor components		48 h	96 h	240 h

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.

NOTE For example, the class of corrosion C1/3 means: 24 h resistance for indoor components and 96 h resistance for outdoor components.

When outdoor components are required to be class 4, indoor components shall be at least class 2.

4.15 Dimensional tolerances

4.15.1 General

Tolerances relate to the overall dimensions (height(s) and width(s)) of the product delivered compared to the ordered dimensions.

4.15.2 Determination of performance

The dimensions are the overall dimensions of the product delivered

The covered surface area of the fabric shall be given in the technical instructions of the manufacturer.

4.15.3 Performance requirement

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.

Table 13 — Vertical roller, conservatory and pergola awning — Dimensional tolerances

Width L (m)	Tolerances (mm)	Height H (m)	Tolerances (mm)
L ≤ 2	+0 −3	H ≤ 1,5	+2 −2
2 < L ≤ 4	+0 −4	1,5 < H ≤ 2,5	+3 −3
L > 4	+0 −5	H > 2,5	+4 −4

Table 14 — Projecting awning — Dimensional tolerances

Width L (m)	Tolerances (mm)	Sloping projection H (m)	Tolerances (mm)
L ≤ 6	+0 −10	All H	±40
6 < L ≤ 12	+0 −20		
12 < L ≤ 18	+0 −30		

4.16 Bullet resistance

External blinds claiming to have a minimum level of bullet resistance shall be evaluated according to EN 1522 and EN 1523.

5 Handling and storage

5.1 General

This clause specifies requirements related to packaging, storage, handling and delivery of external blinds.

5.2 Determination of performance

The requirements specified in 5.3 shall be fulfilled.

5.3 Performance requirement

The external blind or each of its components shall be:

— able to be handled accordance with ISO 11228-3;

Whenever possible, in case of manual handling, the mass per person should be not more than 25 kg.

— wrapped or designed to ensure storage without deterioration.

Any special equipment for assembly, fixing and setting, e.g. appropriate fixing brackets shall be provided.

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.

6 Information for use

6.1 General

Information for use shall be provided in accordance to EN ISO 12100. The following specific information shall be included in these instructions.

6.2 Signal and warning devices

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.

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.

6.3 Accompanying documents (in particular the instruction handbook)

6.3.1 General

Written instructions shall be provided in accordance to EN ISO 12100. The following specific information shall be included in these instructions.

6.3.2 Instructions for handling, unpacking and installation

6.3.2.1 General instructions

The instructions shall include a repeat of the instructions with which the product is marked.

The instructions shall clearly state when the procedure specified can be completed by non-professionals.

The instructions shall include step by step, guidance on the correct sequence of operations to achieve a proper good and safe installation:

— instructions for assembly, installation and fixing, i.e. the selection of the anchoring, installation conditions and limits;

— the assembly phases;

— any special requirements for storage;

— the methods for safe handling of the external blind and its components, in particular for products delivered in items with high unit mass.

The installation instructions shall state that the instructions for use shall be provided to the end user.

6.3.2.2 Additional instructions for power operated products

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).

The information on the operations to be carried out to programme an electronic switch or a clock shall be given in a clear manner.

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.

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).

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.

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.

6.3.3 Instructions for use and maintenance

6.3.3.1 General instructions

The instructions for use shall include the duties and conditions under which the external blind shall be used, in particular with regard to:

— correct methods for operating the external blind;

— explanation of the warning signs.

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.

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.

The instructions shall state the maximum load for which the non retractable parts of the external blinds have been designed.

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.

The manufacturer shall clearly indicate the items needing replacement, maintenance or verification and the frequency.

6.3.3.2 Additional specifications for power operated products

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

The instructions shall include the substance of the following:

— Do not allow children to play with the control device of the blind. Keep remote control away from children;

— Frequently examine the installation for signs of wear or damage to cables. Do not use if repair is necessary.

The information on the operations to be carried out to programme an electronic switch or a clock shall be given in a clear manner.

The instructions shall give details on how to use the manual release, if applicable, and the substance of the following:

— Take care when operating the manual release with the external blind retracted since it may fall rapidly due to weak or broken springs.

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.

For an inspection or maintenance of the electrical parts, the external blind shall be disconnected from the energy supply in a reliable way.

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.

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.

6.4 Marking

The minimum marking is specified in Clause 8.

7 Assessment and verification of constancy of performance - AVCP

7.1 General

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:

— Determination of the product type;

— Factory production control by the manufacturer, including product assessment.

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).

7.2 Type Testing

7.2.1 General

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. (e.g. use of previously existing data, CWFT and conventionally accepted performance).

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.

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.

Products may be grouped in different families for different characteristics.

Reference to the assessment method standards should be made to allow the selection of a suitable representative sample.

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:

— at the beginning of the production of a new or modified external blind and awning (unless a member of the same product range); or

— at the beginning of a new or modified method of production (where this may affect the stated properties).

The determination of the product type shall be repeated for the appropriate characteristic(s), whenever a change occurs in the external blind and awning design, in the raw material or in the supplier of the components, or in the method of production (subject to the definition of a family), which would affect significantly one or more of the characteristics.

Where components are used whose characteristics have already been determined, by the component manufacturer, on the basis of assessment methods of other product standards, these characteristics need not be re-assessed. The specifications of these components shall be documented.

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.

7.2.2 Test samples, testing and compliance criteria

The number of samples of external blinds and awnings to be tested/assessed shall be in accordance with Table 15.

Table 15 — Number of samples to be tested and compliance criteria

Characteristic	Requirement	Assessment method	Number of samples	Compliance criteria
Resistance to wind loads	4.1	EN 1932	1	EN 1932
Total solar energy transmittance g_{tot}	4.12	EN 13363-1	1	EN 14501

7.2.3 Test reports

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.

7.2.4 Shared other party results

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:

— the results are known to be valid for products with the same essential characteristics relevant for the product performance;

— 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 [1)] 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;

— the manufacturer using other party results accepts to remain responsible for the product having the declared performances and he also:

  — 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

  — 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.

7.2.5 Cascading determination of the product type results

— 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.

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.

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.

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.

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:

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1) The formulation of such an agreement can be done by licence, contract, or any other type of written consent.

2) This can be, for instance, a contract, license or whatever kind of written agreement, which should also contain clear provisions with regard to responsibility and liability of the component producer (system house, on the one hand, and the assembler of the finished product, on the other hand).

3) These companies may produce components but they are not required to do so.

— 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;

— The system house has notified to the manufacturer the instructions for manufacturing/assembling the product and installation guidance;

— 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;

— 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;

— 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);

— 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.

7.3 Factory Production Control (FPC)

7.3.1 General

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.

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.

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.

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.

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.

7.3.2 Requirements

7.3.2.1 General

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.

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.

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.

In each factory the manufacturer may delegate the action to a person having the necessary authority to:

— identify procedures to demonstrate constancy of performance of the product at appropriate stages;

— identify and record any instance of non-constancy;

— identify procedures to correct instances of non-constancy.

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:

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;

b) the effective implementation of these procedures and instructions;

c) the recording of these operations and their results;

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.

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.

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.

The manufacturer who subcontracts all of his activities may in no circumstances pass these responsibilities on to a subcontractor.

NOTE Manufacturers having an FPC system, which complies with EN ISO 9001 standard and which addresses the provisions of 4.1 and 4.12 of the present European Standard are considered as satisfying the FPC requirements of the Regulation (EU) No 305/2011.

7.3.2.2 Equipment

7.3.2.2.1 Testing

All weighing, measuring and testing equipment shall be calibrated and regularly inspected according to documented procedures, frequencies and criteria.

7.3.2.2.2 Manufacturing

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.

7.3.2.3 Raw materials and components

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.

7.3.2.4 Traceability and marking

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.

7.3.2.5 Controls during manufacturing process

The manufacturer shall plan and carry out production under controlled conditions.

7.3.2.6 Product testing and evaluation

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:

— Resistance to wind loads: shall be subject to the tests indicated in 4.1 at least once during the entire production period;

— Total solar energy transmittance: shall be subject to the tests indicated in 4.12 at least once during the entire production period.

7.3.2.7 Non complying products

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.

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.

Once the fault has been corrected, the test or verification in question shall be repeated.

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.

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.

7.3.2.8 Corrective action

The manufacturer shall have documented procedures that instigate action to eliminate the cause of non-conformities in order to prevent recurrence.

7.3.2.9 Handling, storage and packaging

The manufacturer shall have procedures providing methods of product handling and shall provide suitable storage areas preventing damage or deterioration.

7.3.3 Product specific requirements

The FPC system shall address this European Standard and ensure that the products placed on the market comply with the declaration of performance.

The FPC system shall include a product specific FPC, which identifies procedures to demonstrate compliance of the product at appropriate stages, i.e.:

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

b) the verifications and tests to be carried out on finished products according to a frequency laid down in the FPC test plan.

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.

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).

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.

NOTE Depending on the specific case, it can be necessary to carry out the operations referred to under a) and b),only the operations under a) or only those under b).

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.

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.

7.3.4 Procedure for modifications

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.

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.

All assessments and their results shall be documented in a report.

7.3.5 One-off products, pre-production products (e.g. prototypes)

The external blinds produced as a one-off, prototypes assessed before full production is established shall be assessed as follows.

For type assessment, the provisions of 7.2.1, 3rd paragraph apply, together with the following additional provisions:

— in case of prototypes, the test samples shall be representative of the intended future production and shall be selected by the manufacturer;

— 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.

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.

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:

— the FPC-documentation; and

— the factory.

In the initial assessment of the factory and FPC it shall be verified:

a) that all resources necessary for the achievement of the product characteristics included in this European Standard will be available, and

b) that the FPC-procedures in accordance with the FPC-documentation will be implemented and followed in practice, and

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.

Once series production is fully established, the provisions of 7.3 shall apply.

8 Marking

The minimum marking shall include:

— business name and full address of the manufacturer and, where applicable, his authorized representative;

— mandatory marking;

— year of construction;

— designation of the product;

— designation of series or type, if any;

— serial or identification number, if any;

— rating information (mandatory for electrical products voltage, frequency, power, etc.).

When regulatory marking covers the same information listed above, the provisions of this clause are met.

Annex A
(normative)

Fabrics — Determination of the elongation of external blinds fabrics under a static load – Test method

A.1 Scope

This measuring method evaluates the behaviour of external blinds fabrics during and after application of a static load. The measurement results can give an evaluation of the behaviour of external blinds fabrics with respect to sagging and bagging during use.

During the determination of the test conditions, it was taken into account that even a slight elongation of the external blind fabric can lead to significant problems during use.

A.2 Terms and definitions

For the purposes of this annex, the following terms and definitions apply.

A.2.1
measurement marks
marks made at defined intervals on the unstressed measure sample. The changes in distance between these marks are measured during testing

A.2.2
initial length
l_0
distance l_0 between the two outer measuring marks and equal to (1 000 ± 1) mm

A.2.3
overall length
l_G
distance l_G between the measuring marks after (24 ± 0,25) h exposure to a force of 25 N/cm sample width

A.2.4
residual length
l_R
distance l_R between the two outer measuring marks after sample loading and (24 ± 0,25) h recovery time in an unstressed state

A.2.5
total change in length
Δl_G
difference Δl_G between the overall length l_G and the initial length l_0

$$\Delta l_G = l_G - l_0$$

A.2.6
change in residual length
Δl_R
difference Δl_R between the residual length l_R and the initial length l_0

$\Delta l_R = l_R - l_0$

A.2.7
initial width
b_0
sample width b_0 measured in the middle of the sample at the middle measuring mark and equal to (100 ± 0,05) mm

A.2.8
width under load
b_G
sample width b_G measured in the middle of the loaded sample at the middle measuring mark after (24 ± 0,25) h loading

A.2.9
residual width
b_R
sample width b_R measured in the middle of the unstressed sample at the midle measuring mark after (24 ± 0,25) h recovery time

A.2.10
change in width under load
Δb_G
difference Δb_G in between the width under load b_G and the initial width b_0

$\Delta b_G = b_G - b_0$ The value is 0 or negative

A.2.11
change in residual width
Δb_R
difference Δb_R between the residual sample width b_R and the initial width b_0

$\Delta b_R = b_R - b_0$ The value is 0 or negative

Note 1 to entry: On account of the small changes in length recorded with this test method the stretch rate is not calculated so as to avoid misinterpretations of the very small stretch rates.

A.3 Brief description

Three measuring marks are made at fixed intervals across the width in the longitudinal direction of the sample and the initial length and initial width are then measured. The sample is then hung in a frame and stressed with a defined force by affixing a weight corresponding to the prescribed force at the lower end of the vertically suspended sample which is left to take effect on the sample for a specified period of time. At the end of the prescribed loading time, the overall length and the width under load are measured. The sample is relieved. At the end of the prescribed time, the residual length and residual width are measured.

A.4 Equipment

A.4.1 Sample holder

A frame to hold one or more samples shall be designed so that it is suitable for a load of 250 N or a multiple of 250 N. We recommend arranging spikes of around 120 mm in length as upper fixtures on which the samples can be suspended with a loop. The frame shall be at least 1 500 mm in height. The frame shall be placed on the ground to guarantee safety during testing.

A.4.2 Weights

A weight for the sample including clamping device of (25 ± 0,3) kg is required to achieve a force of 25 N/cm of sample width.

A.4.3 Meter rule

In order to determine the distance between two marks and the sample width, a meter rule with an accuracy of reading of 0,5 mm is required.

A.4.4 Stop-watch

The watch shall enable a reading of ± 10 s throughout the entire test period.

A.5 Laboratory conditions

The laboratory conditions for comparisons and testing shall be in accordance with EN ISO 139.

NOTE If measurements are carried out in unclimatized rooms the repeatability and comparability (between two different test centres) cannot be guaranteed. In such cases the temperature and relative humidity are to be recorded and noted in the test results.

A.6 Sampling

The samples are taken from the laboratory samples so that each sample has different warp yarns in the warp direction and different weft yarns in the weft direction. The long side of the samples shall be parallel to the warp yarns during testing in the warp direction and parallel to the weft yarns during testing in the weft direction. The minimum distance of the samples from the edges of the laboratory samples shall be 150 mm and from the top and bottom of the piece of fabric 300 mm.

A.7 Samples preparation

A.7.1 General comments

The measurements are performed on samples from both warp and weft directions.

A.7.2 Samples size

The size of the samples shall be as follows:

— Width: (100 ± 1) mm;

— Length: (1 200 ± 1) mm.

The samples are to be cut from the laboratory samples along straight yarns.

A.7.3 Marking the samples

Three measuring marks are to be made at right angles to the length side across the entire width of the sample on the unstressed, relaxed and climatized sample, these being in the middle of the sample:

— (500 ± 0,5) mm to the right of the centre measuring mark;

— (500 ± 0,5) mm to the left of the centre measuring mark (see Figure A.1).

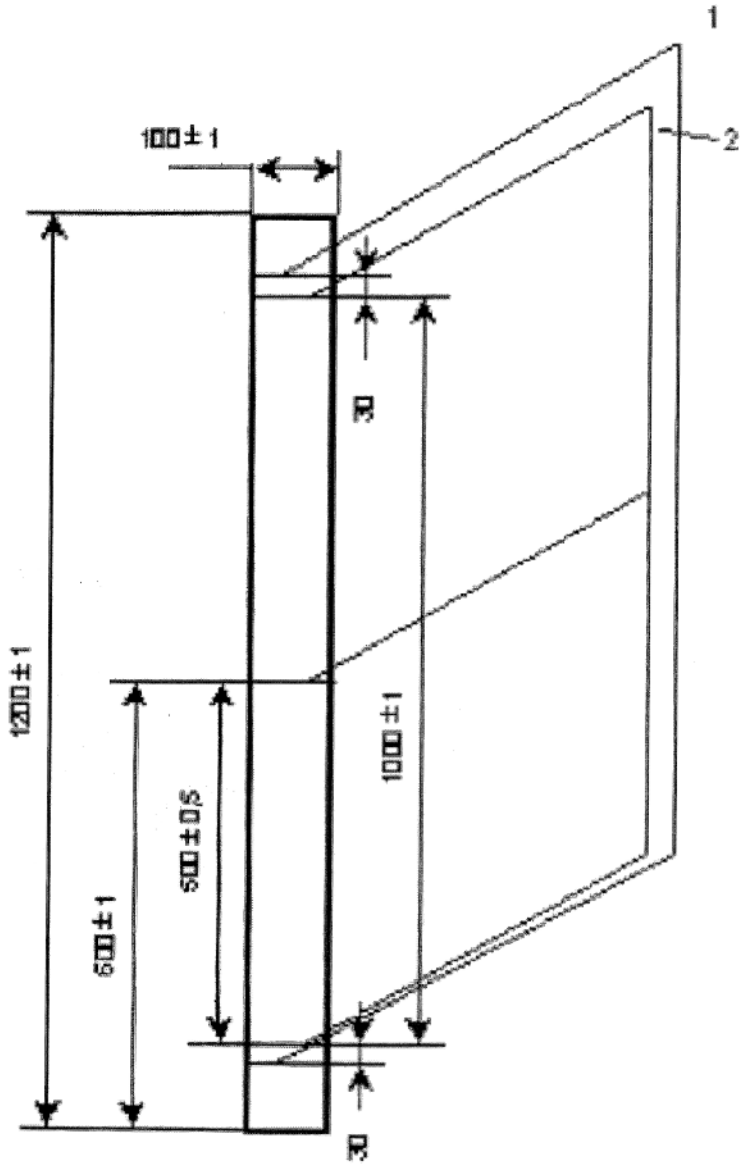
The line for the measuring marks shall be of 1,0 mm wide.

A.7.4 Preparing the samples for testing

The clamping line for the samples shall be at least (30 ± 1) mm outside the outer measuring marks.

If using a sample holding frame we recommend sewing a loop at the top and bottom ends of the sample, whereby the distance between the seam and outer measuring mark shall be, in each case (30 ± 1) mm, i.e. from the centre measuring mark (530 ± 1) mm. The sample can then be hung by the loop on the spike of the sample holding frame. The load weight can be suspended from the second loop at the bottom.

Dimensions in millimetres



Key

1 clamping line

2 measuring marks

Figure A.1 — Size of sample

A.8 Execution of testing

The initial length and initial width shall be measured to within 0,5 mm on the marked samples in an unstressed, relaxed and climatized condition.

The sample is then hung by one end with a loop on the spike of the sample holding frame. The load weight is then affixed to the lower end of the sample in such a way that no force is initially exerted on the sample.

The weight is then released quickly so that the sample is subjected to the full load within 5 s (avoiding any jerky loading).

The stop-watch is started at the same time as the loading. At the end of the loading time (24 ± 0,25) h, the distance between the two measuring marks is measured to within 0,5 mm (measurement of overall length). Immediately after this, the width is measured to within 0,5 mm at the centre measuring mark (width under loading).

The sample is then relieved, the loading weight removed and the sample left unstressed in the upper holder or removed from the frame and laid out unstressed on a table or similar.

At the end of the recovery time (24 ± 0,25) h, the residual length is measured by measuring the distance between the two outer measuring marks and immediately after this, the residual width is measured at the centre measuring mark. Both measured values are to be quoted to the nearest 0,5 mm.

The length measurement should be taken in the middle of both measuring marks.

During series measurements we recommend the simultaneous testing of a number of samples, whereby the stressing and relief of the samples shall be organized in succession so that an exact measurement of the samples under load and after recovery is guaranteed by the temporal offset.

Safety instruction: When working with loading weights take special precautions (e.g. wearing of safety gloves, not letting the loading weight fall from the sample) so as to avoid accidents.

A.9 Number of samples

At least three samples each are to be tested in the warp and weft directions. If statistical data other than the mean value are needed, the number of samples in each series of tests shall be at least five.

A.10 Evaluation of the measurement results

The initial length, overall length, residual length, total change in length, change in residual length, initial width, width under load, residual width, change in width under load and change in residual width are to be determined for each sample to the nearest 0,5 mm.

The mean value is calculated to the nearest 0,5 mm from the individual values for total change in length, change in residual length, change in width under load and change in residual width.

If other statistical data is required, the standard deviation to the nearest 0,5 mm, the confidence range for the mean value to the nearest 0,5 mm and the coefficient of variation to the nearest 0,1 % are determined for five individual values.

A.11 Test report

The test report shall include the following data:

A.11.1 General data:

A.11.1.1 Reference to this test method and test date;

A.11.1.2 Identification of the sample and if necessary, description of the sampling;

A.11.1.3 Number of samples;

A.11.1.4 Laboratory conditions;

A.11.1.5 Any eventual deviation from the prescribed test method.

A.11.2 Test results:

A.11.2.1 Mean value for the total change in length;

A.11.2.2 Mean value for the change in residual length;

A.11.2.3 Mean value for the change in width under load;

A.11.2.4 Mean value for the change in residual width;

A.11.2.5 If requested, standard deviation, confidence range for the mean value and coefficient for the parameters listed under A.11.2.1, A.11.2.2, A.11.2.3 and A.11.2.4.

Annex B
(normative)

List of significant machine hazards

This clause contains all the significant hazards, hazardous situations and events, as far as they are dealt with in this standard, identified by risk assessment as significant for powered operated external blinds and which require action to eliminate or reduce the risk.

Table B.1 — Significant hazards (according to EN ISO 12100)

Hazards, hazardous situations and hazardous events	Relevant clause in this standard
Mechanical hazards	4.1, 4.4, 4.7, 4.10.2, 4.10.3, 4.10.4.3.1, 4.10.4.3.2, Clause 5 and Clause 6
Electric hazards	4.10.5, Clause 5
Ergonomic hazards	Clause 6

Annex C
(informative)

Example of calculation for the wind resistance determination on fixed parts of external blinds in retracted position

According to the defined methodology:

1) Determine the weakest point of the external blind

   ⇨ In the example given in Figure C.1: Screw 1

2) Determine the maximum surface where wind stress can be applied

   ⇨ In the example given in Figure C.1: 182 mm x 4 000 mm (maximum width of the covering), i.e. 0,728 m^2

3) Determine the test load to fulfil the requirement of e.g. 800 Pa, i.e. 800 N/m^2

   ⇨ In the example given in Figure C.1: F = 0,728 m^2 x 800 N/m^2 = 583 N

2) Determine the worst case angle where the wind can pull. This is the test direction for the load F

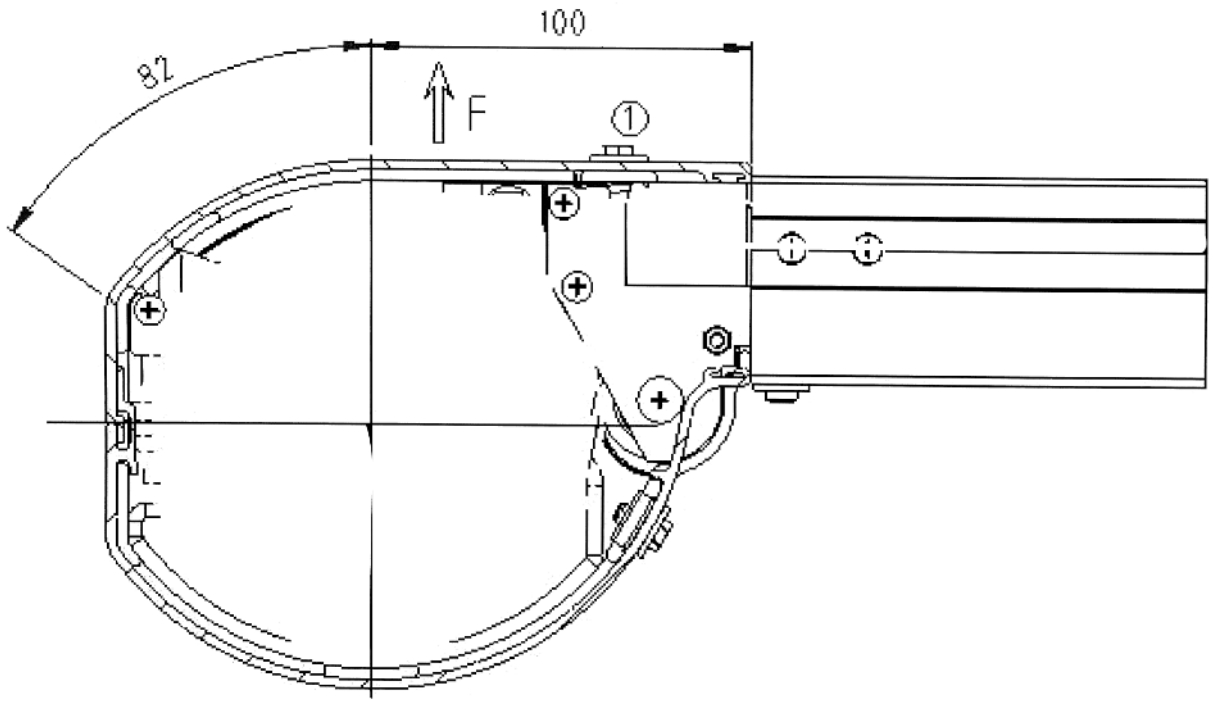


Figure C.1 — Example of fixed part of an external blind: head box of a concertina awning

Annex ZA
(informative)

Clauses of this European Standard addressing the provisions of EU Construction Products Regulation

ZA.1 Scope and relevant characteristics

This European Standard has been prepared under Mandate M/101 “Doors windows, shutters, gates and related building hardware” as amended by M/126 and M/130, given to CEN by the European Commission and the European Free Trade Association.

If this European standard is cited in the Official Journal of the European Union (OJEU), the clauses of this standard, shown in this annex, are considered to meet the provisions of the relevant mandate, under the Regulation (EU) No. 305/2011.

This annex deals with the CE marking of the external blinds and awnings intended for the uses indicated in Table ZA.1 and shows the relevant clauses applicable.

This annex has the same scope as in Clause 1 of this standard related to the aspects covered by the mandate and is defined by Table ZA.1.

Table ZA.1 — Relevant clauses for external blinds and awnings for external use in buildings and other construction works

Product: external blinds and awnings **Intended use**: for external use in buildings and other construction works			
Essential Characteristics	**Clauses in this and other European Standard(s) related to essential characteristics**	**Regulatory classes**	**Notes**
Resistance to wind loads	4.1	—	Class
Total solar energy transmittance g_{tot}	4.12	—	Value

The requirement declaration of the product performance related to certain characteristics is not required in those Member States (MS) where there are no regulatory requirements on these essential characteristics for the intended use of the product.

In this case, manufacturers placing their products on the market of these MS are not obliged to determine nor declare the performance of their products with regard to these essential characteristics and the option “No performance determined” (NPD) in the information accompanying the CE marking (see ZA.3) may be used for those essential characteristics.

ZA.2 Procedure for AVCP of external blinds and awnings

ZA.2.1 System(s) of AVCP

The AVCP system(s) of external blinds and awnings indicated in Table ZA.1, established by EC Decision 1999/93/EC (OJEU L29 of 3.2.1999) as amended by EC Decision 2011/246 (OJEU L103 of 19.4.2011) is shown in Table ZA.2 for the indicated intended use(s) and relevant level(s) or class(es) of performance.

Table ZA.2 — System(s) of AVCP

Products	Intended use	Level(s) or Class(es) of performance	AVCP system(s)
Shutters and blinds (with or without related hardware)	External use	—	4
System 4: See Regulation (EU) No. 305/2011 (CPR) Annex V, 1.5			

The AVCP of external blinds and awnings in Table ZA.2 shall be according to the AVCP procedures indicated in Table ZA.3 resulting from the application of clauses of this or other European Standard indicated therein. The content of tasks of the notified body shall be limited to those essential characteristics as provided for, if any, in Annex III of the relevant mandate and to those that the manufacturer intends to declare.

Table ZA.3 — Assignment of evaluation of conformity tasks for external blinds and awnings

Task		Content of the task	Evaluation of conformity clauses to apply
Tasks for the manufacturer	Factory production control (FPC)	Parameters related to essential characteristics of Table ZA.1 relevant for the intended use	7.3
	Determination of the product-type on the basis of type testing, type calculation, tabulated values or descriptive documentation of the product	Essential characteristics of Table ZA.1 relevant for the intended use which are declared	7.2

ZA.2.2 Declaration of performance (DoP)

ZA.2.2.1 General

The manufacturer draws up the DoP and affixes the CE marking on the basis of the different AVCP systems set out in Annex V of the Regulation (EU) No 305/2011:

In case of products under system 4

— the factory production control carried out by the manufacturer;

— the determination by the manufacturer of the product-type on the basis of type testing, type calculation, tabulated values or descriptive documentation of the product.

ZA.2.2.2 Content

The model of the DoP is provided in Annex III of the Regulation (EU) No 305/2011.

According to this Regulation, the DoP shall contain, in particular, the following information:

— the reference of the product-type for which the declaration of performance has been drawn up;

— the AVCP system or systems of the construction product, as set out in Annex V of the CPR;

— the reference number and date of issue of the harmonized standard which has been used for the assessment of each essential characteristic;

— where applicable, the reference number of the Specific Technical Documentation used and the requirements with which the manufacturer claims the product complies.

The DoP shall in addition contain:

a) the intended use or uses for the construction product, in accordance with the applicable harmonized technical specification;

b) the list of essential characteristics, as determined in the harmonized technical specification for the declared intended use or uses;

c) the performance of at least one of the essential characteristics of the construction product, relevant for the declared intended use or uses;

d) where applicable, the performance of the construction product, by levels or classes, or in a description, if necessary based on a calculation in relation to its essential characteristics determined in accordance with the Commission determination regarding those essential characteristics for which the manufacturer shall declare the performance of the product when it is placed on the market or the Commission determination regarding threshold levels for the performance in relation to the essential characteristics to be declared;

e) the performance of those essential characteristics of the construction product which are related to the intended use or uses, taking into consideration the provisions in relation to the intended use or uses where the manufacturer intends the product to be made available on the market;

f) for the listed essential characteristics for which no performance is declared, the letters “NPD” (No Performance Determined).

Regarding the supply of the DoP, Article 7 of the Regulation (EU) No 305/2011 applies.

The information referred to in Article 31 or, as the case may be, in Article 33 of Regulation (EC) No 1907/2006, (REACH) shall be provided together with the DoP.

ZA.2.2.3 Example of DoP

The following gives an example of a filled-in DoP for folding arm awnings for external use in buildings and other construction works

DECLARATION OF PERFORMANCE

No. 001CPR2013-12-17

1. Unique identification code of the product-type:

FOL-AW-12345

2 Type, batch or serial number or any other element allowing identification of the construction product as required under Article 11(4):

Folding arm awning ref. 12345

3. Intended use or uses of the construction product, in accordance with the applicable harmonized technical specification, as foreseen by the manufacturer:

External use in buildings and other construction works

4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required under Article 11(5):

AnyCo SA,

PO Box 21

B-1050 Brussels, Belgium

Tel. +32987654321

Fax: +32123456789

e-mail: anyco.sa@provider.be

5. Where applicable, name and contact address of the authorized representative whose mandate covers the tasks specified in Article 12(2):

Anyone Ltd

Flower Str. 24

West Hamfordshire

UK-589645 United Kingdom

Tel. +44987654321

Fax: +44123456789

e-mail: anyone.ltd@provider.uk

6. System or systems of assessment and verification of constancy of performance of the construction product as set out in CPR, Annex V:

System 4

7. **Not applicable (no notified body involved in System 4)**

8. **Not applicable**

9. Declared performance

Essential characteristics	Performance	Harmonized technical specification
Resistance to wind loads	Class 2	EN 13561
Total solar energy transmittance g_{tot}	0,10	

10. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 8.

    This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

    Signed for and on behalf of the manufacturer by:

    ……

    (name and function)

    ……..…… ……..……

    (place and date of issue) (signature)

ZA.3 CE marking and labelling

The CE marking symbol shall be in accordance with the general principles set out in Article 30 of Regulation (EC) No 765/2008 and shall be affixed visibly, legibly and indelibly:

— to the external blind and awning,

or

— to a label attached to it.

Where this is not possible or not warranted on account of the nature of the product, it shall be affixed:

— to the packaging,

or

— to the accompanying documents.

The CE marking shall be followed by:

— the last two digits of the year in which it was first affixed;

— the name and the registered address of the manufacturer, or the identifying mark allowing identification of the name and address of the manufacturer easily and without any ambiguity;

— the unique identification code of the product-type;

— the reference number of the declaration of performance;

— the level or class of the performance declared;

— the dated reference to the harmonized technical specification applied;

— the intended use as laid down in the harmonized technical specification applied.

The CE marking shall be affixed before the construction product is placed on the market. It may be followed by a pictogram or any other mark notably indicating a special risk or use.

Figure ZA.1 gives an example of the information related to products subject to AVCP under each of the different systems to be given on external blinds and awnings.

CE	*CE marking, consisting of the "CE" symbol*
AnyCo Ltd, PO Box 21, B-1050, Brussels, Belgium	*Name and the registered address of the manufacturer, or identifying mark*
15	*Last two digits of the year in which the marking was first affixed*
001CPR2013–12–17	*Reference number of the DoP*
EN 13561:2015	*No. of European Standard applied, as referenced in OJEU*
FOL-AW-12345	*Unique identification code of the product-type*
External use in buildings and other construction works	*Intended use of the product as laid down in the European Standard applied*
Resistance to wind loads: Class 2 **Total solar energy transmittance g_{tot}:** 0,10	*Level or class of the performance declared*

Figure ZA.1 — Example CE marking information of products under AVCP system 4

Annex ZB
(informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide one means of conforming to Essential Requirements of the New Approach Directive 2006/42/EC on machinery.

All power operated external blinds fall in the scope of this European Directive.

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard except 4.5, 4.6, 4.8, 4.9, 4.11, 4.12, 4.13, 4.14, 4.15, 4.16 and Clause 7 confers, within the limits of the scope of this standard, a presumption of conformity with the Essential Requirements of that Directive and associated EFTA regulations.

WARNING: Other requirements and other EU Directives may be applicable to the products falling within the scope of this document.

Bibliography

[1] EN 1522, *Windows, doors, shutters and blinds - Bullet resistance - Requirements and classification*

[2] EN 1523, *Windows, doors, shutters and blinds - Bullet resistance - Test method*

[3] EN 14202, *Blinds and shutters - Suitability for use of tubular and square motorizations - Requirements and test methods*

[4] EN 14203, *Blinds and shutters - Capability for use of gears with crank handle - Requirements and test methods*

[5] EN 14500, *Blinds and shutters - Thermal and visual comfort - Test and calculation methods*

[6] EN 14501, *Blinds and shutters - Thermal and visual comfort - Performance characteristics and classification*

[7] EN 13120, *Internal blinds - Performance requirements including safety*

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