BS 5656-1:2013

BSI Standards Publication

Safety rules for the construction and installation of escalators and moving walks

Part 1: Examination and test of new escalators before putting into service – Specification for means of determining compliance with BS EN 115-1:2008+A1:2010

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Contents

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 22, an inside back cover and a back cover.

Foreword

Publishing information

This part of BS 5656 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 November 2013. It was prepared by Technical Committee MHE/4, *Lifts, hoists and escalators*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

Together with BS 5656-3 (currently in preparation [1)]), this part of BS 5656 will supersede BS 5656-1:1997, which will be withdrawn upon the publication of BS 5656-3.

Relationship with other publications

BS 5656 is published in two parts [1)]:

- Part 1: *Examination and test of new escalators before putting into service – Specification for means of determining compliance with BS EN 115-1:2008+A1:2010*;
- Part 2: *Code of practice for the selection, installation and location of new escalators and moving walks*.

This part of BS 5656 is intended to be read in conjunction with BS EN 115-1:2008+A1:2010.

Information about this document

This is a full revision of the standard. The principal change is to update the standard to take into account the publication of BS EN 115-1:2008+A1:2010.

The Machinery Directive 2006/42/EC [1] requires the manufacturer of an escalator to take responsibility for its design and manufacture.

The Directive requires that before putting an escalator into service it shall have undergone certain procedures including final inspection and test.

The inspection and test procedures in this part of BS 5656 may be undertaken by the supplier or their representative, provided that they have an appropriate quality assurance system and/or can demonstrate the necessary competence to undertake the work.

The level of quality assurance can vary in accordance with which conformity assessment route applies, details of which are given in BS EN ISO 9000.

In order to prove the competence of the persons carrying out the testing of the escalator it is necessary that they operate in accordance with a quality assurance system monitored by a Notified Body, under the requirements of the Supply of Machinery (Safety) Regulations 2008 [2]. It might be necessary to make available certification of the quality assurance system in order to prove compliance.

This part of BS 5656 specifies a means of determining compliance with BS EN 115-1:2008+A1:2010. It does not cover every clause in BS EN 115-1:2008+A1:2010 as many requirements are covered by the manufacturer's quality control procedures.

[1)] At the time of publication of this part of BS 5656, it is expected that a new part 3 will be developed to cover the examination and test of moving walks before putting into service. BS 5656-1:1997 will remain current until the specifications for both escalators and moving walks have been revised.

This part of BS 5656 covers the tests in BS EN 115-1:2008+A1:2010, **7.3**, as well as tests that do not fall within the manufacturer's quality control system; for example, the surroundings of the escalator to ensure conformity to arrangement drawings.

Use of this document

It has been assumed in the preparation of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

Attention is particularly drawn to the recommendations for safe working practices provided in BS 7801.

BSI permits the reproduction of the tables in this part of BS 5656. This reproduction is only permitted where it is necessary for the user to record findings on the tables during each application of the standard.

The following documents are required for the examination and tests to be carried out:

- general arrangement drawing;
- electrical schematic drawing;
- copies of test certificates;
- Notified Body approvals, certificates of incorporation, certificates of conformity (if applicable);
- risk assessments for deviations from BS EN 115-1:2008+A1:2010 (if any).

This part of BS 5656 is not intended to be used for existing installations, for which the relevant test procedures are those that were applicable at the time of installation. BS 5656-1:1997 may still be used to carry out any examinations or testing required when changes are made to escalators installed in conformity to BS EN 115:1995, BS EN 115:1995 incorporating Amendment No. 1 (**5.1.5.8** pertaining to hand rails) and BS EN 115:1995 incorporating Amendment No. 2 (**5.1.5.6.3** pertaining to deflector devices).

Relevant tests from this part of BS 5656 may be applied to existing escalators that are upgraded in accordance with either BS EN 115-1:2008+A1:2010 or BS EN 115-2, where for example, components are fitted that were not available at the time of installation and which require examination and test, e.g. the installation of deflector devices.

Although this standard specifically addresses conformity with BS EN 115-1:2008+A1:2010, it also includes provisions for the testing of other commonly installed features on new escalators, e.g. comb lighting.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

It is recognized that certain tests/checks can be carried out more effectively before installation, and that others should only be made on site. Answer boxes in this part of BS 5656 that contain a shaded square imply that the test should be carried out on site.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

Particular attention is drawn to the following legislation:

- Supply of Machinery (Safety) Regulations 2008 [2];
- Equality Act 2010 [3];
- Electricity at Work Regulations 1989 [4];
- Electromagnetic Compatibility Regulations 1992 [5];
- Electric Equipment (Safety) Regulations 1994 [6];
- Health and Safety at Work etc. Act 1974 [7];
- Provision and Use of Work Equipment Regulations 1998 [8];
- Workplace (Health, Safety and Welfare) Regulations 1992 [9].

NOTE This list is not exhaustive.

1 Scope

This part of BS 5656 specifies one means of determining compliance with the provisions for examination, testing and recording results for new escalators specified in BS EN 115-1:2008+A1:2010, before putting into service.

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.

BS 7801:2011, *Escalators and moving walks – Code of practice for safe working on escalators and moving walks*

BS EN 115-1:2008+A1:2010, *Safety of escalators and moving walks – Construction and installation*

3 Terms and definitions

For the purposes of this part of BS 5656 the terms and definitions given in BS EN 115-1:2008+A1 apply.

4 Examination and test of escalators and components

NOTE 1 It is essential to ensure that the safety requirements of BS EN 115-1:2008+A1 are all met and the associated risks addressed.

When the examination and tests specified in BS EN 115-1:2008+A1 are carried out, the results shall be recorded using the questionnaires given in Table 1 to Table 12 of this part of BS 5656.

All questions on the questionnaires shall be answered.

NOTE 2 Answer boxes in the questionnaires that contain a shaded square indicate that the test/answer should be made on site. Plain answer boxes should be completed by the vendor's design office.

NOTE 3 The word "Specified" in a questionnaire indicates information to be provided by the equipment designer.

For identification purposes, all details are based upon looking from the bottom of the escalator irrespective of the direction of travel and shall be marked by numbers or letters reading from left to right.

Escalators shall be tested for both directions of travel regardless of the intended final direction of travel.

Table 1 **Result of examination and test for escalators – Description of installation** *(1 of 5)*

Do the requirements of BS EN 115-1:2008+A1, Annex I apply? If Yes then complete Table 12.	**No**		**Yes**	
Confirm that negotiations have been made in accordance with BS EN 115-1:2008+A1, Introduction.	**No**		**Yes**	

Purchaser's name	
Equipment location	Vendor's name
Vendor's equipment ID	Purchaser's equipment ID
Vertical rise (m)	Angle of inclination (°)
Nominal step width (mm)	Nominal speed (m/s)

Installation configuration

Single unit		Parallel	
Criss-cross		Successive	

Power supply – Specified		**Power supply – Actual at time of test**	
Voltage (V)		Voltage (V)	
Phases		Phases	
Frequency (Hz)		Frequency (Hz)	
Wire 3, 4 or 5		Wire 3, 4 or 5	
Fuse rating		Fuse rating	
Fuse type		Fuse type	

Table 1 **Result of examination and test for escalators – Description of installation** *(2 of 5)*

Is power supply at the time of test satisfactory?	**No**		**Yes**	
Has a permanent power supply been provided at the time of test?	**No**		**Yes**	

NOTE If the power supply is not permanent at the time of test then the power-related tests might need to be repeated prior to entering into service.

Location of machine

Inside truss		Outside truss	

Location of control panel

Within truss		In separate machine room	
		Other – specify	

Type of drive

Chain		Other	

Type of drive controller

Direct on line		Inverter (VVVF)	
Soft start		Other	

Escalator motor(s) – Specified		**Escalator motor(s) – Supplied**	
No. of motors		No. of motors	
Manufacturer		Manufacturer	
Serial no(s).		Serial no(s).	
Type		Type	
Voltage	V	Voltage	V
Power	kW	Power	kW
Current	A	Current	A

Table 1 **Result of examination and test for escalators – Description of installation** *(3 of 5)*

Speed	rpm	Speed	rpm
Insulation class		Insulation class	
Duty		Duty	

Gear(s) – Specified		**Gear(s) – Supplied**	
No. of gears		No. of gears	
Manufacturer		Manufacturer	
Serial no(s).		Serial no(s).	

Type of gear		**Type of gear**	
Planetary		Planetary	
Worm/wheel		Worm/wheel	
Helical		Helical	
Other		Other	
Ratio		Ratio	

Where applicable, is the oil level correct? **No** **Yes**

Operational brake(s) (see BS EN 115-1:2008+A1, **5.4.2.1**)

Type of brake – Specified		**Type of brake – Supplied**	
Electromechanical		Electromechanical	
Other: specify		Other	

Number of brakes Specified Fitted

Location

Table 1 **Result of examination and test for escalators – Description of installation** *(4 of 5)*

Auxiliary brake(s) (see BS EN 115-1:2008+A1, **5.4.2.2**)

N/A ☐

Number of brakes	Specified		Fitted	
Location				

Step chain(s) lubrication

Is chain lubrication required? **No** ☐ **Yes** ☐

If yes, specify type

Is the chain lubrication operating correctly? **No** ☐ **Yes** ☐

Auxiliary chain(s) lubrication

Is auxiliary chain lubrication required? **No** ☐ **Yes** ☐

If yes, specify type

Is the auxiliary chain lubrication operating correctly? **No** ☐ **Yes** ☐

Main drive chain lubrication

Is main drive chain lubrication required? **No** ☐ **Yes** ☐

If yes, specify type

Is the main drive chain lubrication operating correctly? **No** ☐ **Yes** ☐

Table 1 **Result of examination and test for escalators – Description of installation** *(5 of 5)*

Other		
Is a hand winding device fitted?	**No** ☐	**Yes** ☐
Is standby operation fitted (reduced speed)?	**No** ☐	**Yes** ☐
Is on-demand starting fitted?	**No** ☐	**Yes** ☐
Is remote starting fitted?	**No** ☐	**Yes** ☐
Is all of the above in accordance with the information on the layout drawing/wiring diagram or the other information sheets?	**No** ☐	**Yes** ☐

Table 2 **Result of examination and test for escalators – Information**

Confirm that the vendor holds the information required by BS EN 115-1:2008+A1, **6.2**.	**No**		**Yes**	
Location where the information required by BS EN 115-1:2008+A1, **6.2** is kept *NOTE 1 This address should preferably be in the UK.*				
Does the escalator display the safety signs in accordance with BS EN 115-1:2008+A1, **7.2.1.2.1** and Annex G?	**No**		**Yes**	
Does the escalator display additional safety signs as permitted by local conditions in accordance with BS EN 115-1:2008+A1, **7.2.1.2.1**?	**N/A**		**Yes**	
If yes, give description of sign(s)				
Confirm that safety barriers for both landings (i.e. two barriers) in accordance with BS EN 115-1:2008+A1, **7.2.1.2.3** and with the requirements of BS 7801:2011, Figure D.3 are available on site.	**No**		**Yes**	
Storage location of safety barriers				
Confirm that hand winding instructions are provided, where hand winding devices are fitted in accordance with BS EN 115-1:2008+A1, **7.2.1.3**.	**N/A**		**Yes**	
Confirm that notices are displayed on any access doors giving access to machinery spaces in accordance with BS EN 115-1:2008+A1, **7.2.1.4**.	**N/A**		**Yes**	
Confirm that an instruction handbook conforming to the requirements of BS EN 115-1:2008+A1, **7.4** has been handed to the purchaser.	**No**		**Yes**	
Does the escalator display product marking as required by BS EN 115-1:2008+A1, **7.5** together with CE marking as required by the Supply of Machinery (Safety) Regulations, 2008, r7(2)(f)?	**No**		**Yes**	
Confirm that all stop devices are coloured red, in accordance with BS EN 115-1:2008+A1, **7.2.1.2.2**.	**No**		**Yes**	
Confirm that a clearly visible signalling system, e.g. directional traffic signals, is displayed for escalators that start on demand in accordance with BS EN 115-1:2008+A1, **7.2.2**.	**N/A**		**Yes**	
Confirm that visual inspections have been carried out in accordance with BS EN 115-1:2008+A1, **7.3.2**a) and Table 7.	**No**		**Yes**	

NOTE 2 The purpose of the visual inspections is to show that something is present, e.g. a marking, a control panel, an instruction handbook, etc., and that the marking, control panel, handbook, etc. are in accordance with the requirements.

Table 3 **Result of examination and test for escalators – Physical arrangements** *(1 of 2)*

Confirm that where escalators are located adjacent to walls, devices to restrict access to the balustrade decking have been provided at the top and bottom ends of these walls, where the lower outer decking width b_{13} exceeds 125 mm, in accordance with BS EN 115-1:2008+A1, **5.5.2.2**. *NOTE 1 Attention is drawn to the Building Regulations 2010 – Approved document K [10], which require a maximum clearance of 100 mm.*	**N/A** ☐	**Yes** ☐
Confirm that on adjacent parallel escalator arrangements protection devices have been provided where the combined balustrade decking width b_{14} exceeds 125 mm, in accordance with BS EN 115-1:2008+A1, **5.5.2.2**.	**N/A** ☐	**Yes** ☐
Confirm that any access restriction device extends to the height h_{10} in accordance with BS EN 115-1:2008+A1, **5.5.2.2**.	**N/A** ☐	**Yes** ☐
Confirm that where handrail level balustrade decking is provided between escalators and adjacent walls, anti-slide devices have been fitted in accordance with BS EN 115-1:2008+A1, **5.5.2.2**.	**N/A** ☐	**Yes** ☐
Confirm that there is a clear headroom of not less than 2.3 m above the steps of the escalator in accordance with BS EN 115-1:2008+A1, **A.2.1**.	**No** ☐	**Yes** ☐
Confirm that the handrail clearance is greater than 80 mm measured horizontally from the outer edge of the handrail, and for a height of 2.1 m measured from the escalator step nose line/landings, in accordance with BS EN 115-1:2008+A1, **A.2.2**.	**No** ☐	**Yes** ☐
Confirm that the handrail clearance is less than 25 mm measured vertically below the lower edge of the handrail, in accordance with BS EN 115-1:2008+A1, **A.2.2**.	**No** ☐	**Yes** ☐
Confirm that the handrail clearance is greater than 160 mm between adjacent escalators, in parallel or criss-cross configuration, measured horizontally between the outer edges of the handrails in accordance with BS EN 115-1:2008+A1, **A.2.3**.	**No** ☐	**Yes** ☐
Confirm that where there are building obstacles within 400 mm of the outer edge of the handrails which could cause injury to passengers (e.g. trapping or cutting hazards), appropriate preventive measures have been taken in accordance with BS EN 115-1:2008+A1, **A.2.4**.	**No** ☐	**Yes** ☐
Confirm that for escalators arranged in a criss-cross configuration, a vertical deflector (head guard) has been fitted at the intersections between adjacent trusses in accordance with BS EN 115-1:2008+A1, **A.2.4**.	**No** ☐	**Yes** ☐

Table 3 **Result of examination and test for escalators – Physical arrangements** *(2 of 2)*

Confirm that where the escalator passes the ceiling intersection or other potential trapping hazard, a vertical deflector (head guard) has been fitted in accordance with BS EN 115-1:2008+A1, **A.2.4**.	**No** ☐	**Yes** ☐
Confirm that the unrestricted areas (passenger circulation areas) at each landing are in accordance with BS EN 115-1:2008+A1, **A.2.5**.	**No** ☐	**Yes** ☐
Confirm that if the exit of the escalator can be blocked by structural measures (e.g. doors or fire shutters), an additional passenger emergency stop unit has been fitted at 2 m to 3 m before the comb intersection line, in accordance with BS EN 115-1:2008+A1, **A.2.5**.	**No** ☐	**Yes** ☐
Confirm that any building balustrades greater than 100 mm higher than the escalator balustrades have a clearance of between 80 mm and 120 mm to the outer edge of the handrail, in accordance with BS EN 115-1:2008+A1, **A.2.7**.	**No** ☐	**Yes** ☐
Confirm that the area surrounding the escalator is adequately illuminated in accordance with BS EN 115-1:2008+A1, **A.2.8**. *NOTE 2 Attention is drawn to Table 2.5 in the* SLL code for lighting *[11] in respect of illumination levels.*	**No** ☐	**Yes** ☐
Confirm that the illumination level at the comb intersection line measured at floor level is greater than 50 lx, in accordance with BS EN 115-1:2008+A1, **A.2.9**.	**No** ☐	**Yes** ☐

Table 4 **Result of examination and test for escalators – Lighting, insulation and earthing**

WARNING. Electronic circuits and components might need to be disconnected when carrying out insulation and earth continuity checks and tests.

Lighting

Confirm that the handrail lighting is fitted correctly.	**N/A**		**Yes**	
Insulation resistance to earth of handrail lighting installation		MΩ		
Confirm that the skirting lighting is fitted correctly.	**N/A**		**Yes**	
Insulation resistance to earth of skirting lighting installation		MΩ		
Confirm that the comb lighting is fitted correctly.	**N/A**		**Yes**	
Insulation resistance to earth of comb lighting installation		MΩ		
Confirm that the under step lighting is fitted correctly.	**N/A**		**Yes**	
Insulation resistance to earth of step lighting installation		MΩ		

Insulation resistance to earth

Confirm that factory test documents are available to show that insulation resistances to earth are in accordance with BS EN 115-1:2008+A1, **5.11.1.4**.	**No**		**Yes**	

Earthing continuity

Confirm that the maximum continuity resistance to earth is less than 0.5 Ω.	**No**		**Yes**	
Confirm that the controller is bonded to earth.	**No**		**Yes**	
Confirm that handrail static prevention measures have been applied (earthed).	**No**		**Yes**	

Table 5 **Result of examination and test for escalators – Clearances**

Guiding of steps Confirm that the lateral displacement of the steps out of their guiding system does not exceed 4 mm at either side and 7 mm for the sum of clearances measured at both sides, and that the vertical displacement does not exceed 4 mm, in accordance with BS EN 115-1:2008+A1, **5.3.4**.	**No** ☐	**Yes** ☐
Clearances between steps Confirm that the clearance between two consecutive steps in any usable position measured at the tread surface does not exceed 6 mm, in accordance with BS EN 115-1:2008+A1, **5.3.5**.	**No** ☐	**Yes** ☐
Step to skirt clearance Where the skirting of escalators is placed beside the steps, confirm that the horizontal clearance does not exceed 4 mm at either side, and 7 mm for the sum of clearances measured at both sides at two directly opposite points, in accordance with BS EN 115-1:2008+A1, **5.5.5.1**.	**No** ☐	**Yes** ☐
Mesh of combs into grooves Confirm that the mesh depth h_8 of the combs into the grooves of the tread is at least 4 mm in accordance with BS EN 115-1:2008+A1, **5.7.3.3.1**.	**No** ☐	**Yes** ☐
Confirm that the clearance h_6 does not exceed 4 mm, in accordance with BS EN 115-1:2008+A1, **5.7.3.3.2**.	**No** ☐	**Yes** ☐
Handrail profile and guide/cover Confirm that the distance between the handrail profile and guide or cover profiles does not exceed 8 mm, in accordance with BS EN 115-1:2008+A1, **5.6.2.1**.	**No** ☐	**Yes** ☐
Handrail clearances Confirm that the distance between the outer edge of the handrail and walls or other obstacles is not less than 80 mm horizontally and not less than 25 mm vertically below the lower edge of the handrail, in accordance with BS EN 115-1:2008+A1, **A.2.2**.	**No** ☐	**Yes** ☐
Confirm that the dimensions above are maintained to a clear height of 2.1 m above the steps, in accordance with BS EN 115-1:2008+A1, **A.2.2**.	**No** ☐	**Yes** ☐
Confirm that for escalators arranged adjacent to one another either parallel or criss-cross, the distance between the handrails is not less than 160 mm, in accordance with BS EN 115-1:2008+A1, **A.2.3**.	**No** ☐	**Yes** ☐

Table 6 **Result of examination and test for escalators – Electric safety devices** *(1 of 3)*

Stop switches Confirm that there are maintenance and repair stop switches in both the driving and return stations, and that when operated, the escalator stops and remains stopped even when the stop switch is reset, in accordance with BS EN 115-1:2008+A1, **5.8.4**.	**No**		**Yes**	
Stop switches Total number of stop switches fitted		**Number**		
Number of stop switches for emergency situations, manually operated in accordance with BS EN 115-1:2008+A1, **5.12.2.2.3**.		**Number**		
Confirm that each stop switch is in accordance with BS EN 115-1:2008+A1, **5.12.2.2.3**.	**No**		**Yes**	
Confirm that the escalator stops when each stop switch is operated and remains stopped even when the stop switch is reset.	**No**		**Yes**	
Confirm that if a stop switch is an integral part of the escalator, it is in an easily accessible position.	**N/A**		**Yes**	
Overload (current increase) Confirm that if the motor overload device is actuated, the escalator stops and starting is prevented until it is manually reset, in accordance with BS EN 115-1:2008+A1, **5.11.3.2**.	**N/A**		**Yes**	
Overload (temperature increase) Confirm that if the motor overload device is actuated the escalator stops in accordance with BS EN 115-1:2008+A1, **5.11.3.3**. *NOTE The overload device might be a thermistor.*	**N/A**		**Yes**	
Excessive speed device Confirm that if the excessive speed device is actuated, the escalator stops and starting is prevented until it is manually reset, in accordance with BS EN 115-1:2008+A1, **5.4.2.3.1**.	**N/A**		**Yes**	
Unintentional reversal of the direction of travel device Confirm that if the unintentional reversal of the direction of travel device is actuated, the escalator stops and starting is prevented until it is manually reset in accordance with BS EN 115-1:2008+A1, **5.4.2.3.1**.	**No**		**Yes**	
Auxiliary brake Confirm that if the auxiliary brake electric safety device is operated that the escalator stops in accordance with BS EN 115-1:2008+A1, **5.4.2.2.4**.	**N/A**		**Yes**	

Table 6 **Result of examination and test for escalators – Electric safety devices** *(2 of 3)*

Excessive carriage movement

Confirm that when the carriage electric safety device is activated, the escalator stops and starting is prevented until it is manually reset. [See BS EN 115-1:2008+A1, Table 6, (e) and (f)].

No ☐ **Yes** ☐

Breakage/undue elongation of drive chain

Confirm that when the breakage/undue elongation of the drive chain electric safety device is activated, the escalator stops and starting is prevented until it is manually reset in accordance with BS EN 115-1:2008+A1, **5.12.2.4.1**.

N/A ☐ **Yes** ☐

Comb safety device

Type of comb plate safety device

Horizontal activation	
Vertical activation	
Combined activation	
Other	

Confirm that when the comb safety device is actuated (e.g. as the result of foreign bodies being trapped), the escalator stops in accordance with BS EN 115-1:2008+A1, **5.7.3.2.6**.

No ☐ **Yes** ☐

Successive escalators

Confirm that where there are successive escalators (e.g. where an intermediate exit does not exist), when one escalator is stopped the successive escalator also stops in accordance with BS EN 115-1:2008+A1, **A.2.5**.

N/A ☐ **Yes** ☐

Handrail entry device

Confirm that when the handrail entry device is actuated (as the result of foreign bodies being trapped), the escalator stops in accordance with BS EN 115-1:2008+A1, **5.6.4.3**.

No ☐ **Yes** ☐

Step sagging safety device

Confirm that when the step sagging device is actuated, the escalator stops and starting is prevented until the failure lock is manually reset, in accordance with BS EN 115-1:2008+A1, **5.7.2.5**.

No ☐ **Yes** ☐

Missing step device

Confirm that when either of the missing step devices located at both drive and return stations are actuated, the escalator stops and starting is prevented until the failure lock is manually reset, in accordance with BS EN 115-1:2008+A1, **5.3.6**.

No ☐ **Yes** ☐

Non-lifting of the braking system

Confirm that when the non-lifting of the braking system device is actuated, the escalator stops and starting is prevented until the failure lock is manually reset, in accordance with BS EN 115-1:2008+A1, **5.4.2.1.1**.

No ☐ **Yes** ☐

Table 6 **Result of examination and test for escalators – Electric safety devices** *(3 of 3)*

Hand rail speed deviation device Confirm that when the hand rail speed deviation device is actuated, the escalator stops in accordance with BS EN 115-1:2008+A1, **5.6.1**.	**No** ☐	**Yes** ☐
Opened inspection cover Confirm that when an inspection cover/floor plate is removed or opened, the escalator stops in accordance with BS EN 115-1:2008+A1, **5.2.4**.	**No** ☐	**Yes** ☐
Excessive stopping distance Confirm that when the maximum permitted stopping distance device is actuated, the escalator stops and starting is prevented until the failure lock is manually reset, in accordance with BS EN 115-1:2008+A1, **5.4.2.1.1**.	**No** ☐	**Yes** ☐
Fault to earth Confirm that when the fault to earth device is actuated, the escalator stops and starting is prevented until it is manually reset, in accordance with BS EN 115-1:2008+A1, **5.12.1.1.4**.	**No** ☐	**Yes** ☐
Removable hand winding device Confirm that when the removable hand winding device is actuated, the escalator stops in accordance with BS EN 115-1:2008+A1, **5.4.1.4**.	**N/A** ☐	**Yes** ☐

Table 7 **Result of examination and test for escalators – Control devices**

Inspection controls				
Confirm that all inspection controls have been provided in accordance with BS EN 115-1:2008+A1, **5.12.2.5**.	**No**		**Yes**	
Confirm that all the inspection controls operate in accordance with BS EN 115-1:2008+A1, **5.12.2.5.4**.	**No**		**Yes**	
Starting controls				
Confirm that the starting and directional controls operate in accordance with BS EN 115-1:2008+A1, **5.12.2.1.1**.	**No**		**Yes**	
Confirm that escalators that start or accelerate automatically conform to BS EN 115-1:2008+A1, **5.12.2.1.2**.	**N/A**		**Yes**	
Confirm for escalators that start or accelerate automatically that the user signalling system (traffic lights) conforms to BS EN 115-1:2008+A1, **7.2.2**.	**N/A**		**Yes**	
Confirm that escalators that start automatically, where a user enters in the opposite direction of predetermined travel, conform to BS EN 115-1:2008+A1, **5.12.2.1.3**.	**N/A**		**Yes**	
Confirm that the running time conforms to BS EN 115-1:2008+A1, **5.12.2.1.3**.	**No**		**Yes**	
Measure the running time.			Time	s

Table 8 **Result of examination and test for escalators – Steps, handrails, balustrades and surrounds**

Step running Confirm that the steps are able to run free of any interference from each other, skirting panels, comb sections, deflector devices and any other parts of the escalator structure in each direction of travel.		**No**		**Yes**
Step speed Confirm that the speed of the steps is in accordance with BS EN 115-1:2008+A1, **5.4.1.2**.		**Up**	m/s	
		Down	m/s	
Handrail running Confirm that the handrails are able to run free of any interference from any other parts of the escalator structure in each direction of travel.		**No**		**Yes**
Handrail speed Confirm that the speed of the handrails is in accordance with BS EN 115-1:2008+A1, **5.6.1**.	**Up**		**Down**	
	Left	m/s	**Left**	m/s
	Right	m/s	**Right**	m/s
Landings Confirm that the landings of the escalator conform to BS EN 115-1:2008+A1, **A.2.5**.		**No**		**Yes**
Landing surfaces Confirm that the landing surfaces conform to BS EN 115-1:2008+A1, **5.7.1**.		**No**		**Yes**
Skirt deflector devices Confirm that the skirt deflector devices conform to BS EN 115-1:2008+A1, **5.5.3.4**c).		**No**		**Yes**
Anti-climbing device Confirm that anti-climbing devices conform to BS EN 115-1:2008+A1, **5.5.2.2**.		**N/A**		**Yes**
Access restriction devices Confirm that the access restriction devices conform to BS EN 115-1:2008+A1, **5.5.2.2**.		**N/A**		**Yes**
Anti-slide devices Confirm that the anti-slide devices conform to BS EN 115-1:2008+A1, **5.5.2.2**.		**N/A**		**Yes**
Vertical deflector (head guard) Confirm that any vertical deflectors conform to BS EN 115-1:2008+A1, **A.2.4**.		**N/A**		**Yes**
Shopping trolleys/baggage carts Confirm that where shopping trolleys/baggage carts are available in the area around the escalator, suitable barriers have been provided to prevent access.		**N/A**		**Yes**

Table 9 **Result of examination and test for escalators – Stopping distances**

NOTE 1 Load tests are not required by BS EN 115-1:2008+A1.

NOTE 2 It is good practice not to conduct stopping distance tests until the escalator has been running continuously for at least 1 h.

Operational brake				
Measure no-load stopping distances	**Down**			m
Measure deceleration value	**Down**			m/s^2
Confirm that the deceleration value (<1.0 m/s^2) is in accordance with BS EN 115-1:2008+A1, **5.4.2.1.3.2**			**Yes**	
Confirm that the no-load stopping distance conforms to BS EN 115-1:2008+A1, Table 3.		**No**	**Yes**	
Auxiliary brake				
Confirm that with the operational brake not in operation, any auxiliary brake stops the escalator in accordance with BS EN 115-1:2008+A1, **5.4.2.2.2**.		**N/A**	**Yes**	

Table 10 **Result of examination and test for escalators – Motor(s) measurements**

With no load on the escalator measure the following. If more than one drive motor is installed then provide additional copies of Table 10 to document the measurements.

Electrical current measurements

Motor number			
Starting current escalator running up			A
Starting current escalator running down			A
Running current escalator up – nominal speed			A
Running current escalator down – nominal speed			A
Running current escalator up – reduced speed	**N/A**		A
Running current escalator down – reduced speed	**N/A**		A

Table 11 **Result of examination and test for escalators – Confirmation of conformity to BS EN 115-1:2008+A1:2010**

a) Are all the items associated with the installation, for which the escalator installer is not responsible, in a suitable state for the installation to be put into service? **No** ☐ **Yes** ☐

NOTE 1 Some of the items requiring attention might not be part of the contract for the escalator, but part of the installation and the responsibility of others.

If NO, provide details.

b) Does the escalator conform to BS EN 115-1:2008+A1:2010? **No** ☐ **Yes** ☐

If NO, state the reasons.

NOTE 2 These reasons can include Notified Body approval having been obtained (EC type examination, design examination certificate), or alternative measures implemented following a risk assessment (or reference to BS EN 115-2 when replacing existing installations), to ensure the level of safety meets or exceeds BS EN 115-1:2008+A1. Additional/alternative tests might be required for any deviations from the standard, the results of which should be attached to the present test results.

c) Have all the questions been answered? **No** ☐ **Yes** ☐

If NO, state the reasons:

Signature		Name (in capitals)		Position	
Company		Date		Place of signature	

Table 12 **Result of examination and test for escalators – Additional requirements for shopping trolleys and baggage carts as specified in BS EN 115-1:2008+A1:2010, Annex I.1** *(1 of 2)*

NOTE 1 If shopping trolleys or baggage carts are available to be used on the escalator, then special measures should be defined between the manufacturer of the escalator, the manufacturer of the means of transportation and the purchaser, based on risk assessment in accordance with BS EN ISO 14798, to ensure safe transportation.		
Confirm that trolley barriers are fitted at the entry landing if shopping trolleys/baggage carts are available in the vicinity of the escalators.	**No** ☐	**Yes** ☐
NOTE 2 Barriers should be located outside of the unrestricted areas (passenger circulation areas).		
Confirm that the shopping trolleys/baggage carts which are chosen for use on an escalator have been specified between the shopping trolley/baggage cart manufacturer and the escalator manufacturer.	**No** ☐	**Yes** ☐
Confirm, if non-specified shopping trolleys/baggage carts are available in the escalator area, that access is prevented to the escalator entrance.	**N/A** ☐	**Yes** ☐
Confirm that the width of the shopping trolley/baggage cart is at least 400 mm less than the nominal step width.	**No** ☐	**Yes** ☐
Confirm that passengers are able to leave the escalator, even if shopping trolleys or baggage carts are on the escalator.	**No** ☐	**Yes** ☐
Confirm that the escalator has: a) a horizontal step run of at least 1.6 m at both landing areas; b) minimum transition radii of 2.6 m at the upper landing and 2.0 m at the lower landing; c) a rated speed less than 0.5 m/s; d) an inclination less than 30°.	**No** ☐	**Yes** ☐
Confirm that the combs are designed with a maximum angle (β) of 19° combined with a diameter of the shopping trolley/baggage cart roller of at least 120 mm diameter.	**No** ☐	**Yes** ☐
Confirm that any additional stops for emergency situations have been provided at handrail level (taking into account BS EN 115-1:2008+A1, **A.2.2**) with a distance between 2.0 m and 3.0 m before the step reaches the comb intersection line.	**No** ☐	**Yes** ☐
Confirm that the stop for emergency situations near to the transition curve can be reached from inside the escalator and the stops for emergency situations at exit(s) can be reached from outside of the escalator.	**No** ☐	**Yes** ☐
Confirm that the maximum weight for a shopping trolley/baggage cart is not more than 160 kg when loaded.	**No** ☐	**Yes** ☐

Table 12 **Result of examination and test for escalators – Additional requirements for shopping trolleys and baggage carts as specified in BS EN 115-1:2008+A1:2010, Annex I.1** *(2 of 2)*

Confirm that the shopping trolley/baggage cart automatically locks itself on the inclined part of escalators.	**No**	☐	**Yes**	☐
Confirm that the shopping trolley/baggage cart is fitted with a braking or blocking system.	**No**	☐	**Yes**	☐
Confirm that the shopping trolley/baggage cart has deflectors (bumpers) to reduce the risk of clamping.	**No**	☐	**Yes**	☐
Confirm that for the safe exit from the escalator, the rear rollers of the shopping trolley/baggage cart push the front rollers over the comb.	**No**	☐	**Yes**	☐
Confirm that the front rollers and/or blocking system easily release from the steps.	**No**	☐	**Yes**	☐
Confirm that the deflectors and guiding devices have been added to the surrounding area to ensure correct alignment of shopping trolley/baggage cart when entering the escalator.	**No**	☐	**Yes**	☐
Confirm that the safety signs about the safe and correct use of the shopping trolley/baggage cart are displayed.	**No**	☐	**Yes**	☐

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For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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