

Lifts and service lifts —

Part 10: Specification for the testing and examination of lifts and service lifts —

Section 10.2 Hydraulic lifts —

Subsection 10.2.1 Commissioning tests for new lifts

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Foreword

This Subsection of BS 5655-10, prepared under the direction of the Engineering Sector Board, revises and replaces those elements of BS 5655-10:1986 which cover the testing and examination, at the time of installation, of new hydraulic lifts covered by BS 5655-2:1988.

It is the first Subsection of the second Section of the tenth Part of this British Standard relating to lifts and service lifts. The complete standard consists of the following Parts.

- *Part 1: Safety rules for the construction and installation of electric lifts* (implementing EN 81-1), together with PD 6500 *Explanatory supplement to BS 5655-1*;
- *Part 2: Safety rules for the construction and installation of hydraulic lifts* (implementing EN 81-2);
- *Part 3: Specification for electric service lifts*;
- *Part 4¹⁾*;
- *Part 5: Specification for dimensions of standard lift arrangements*;
- *Part 6: Code of practice for selection and installation*;
- *Part 7: Specification for manual control devices, indicators and additional fittings*;
- *Part 8: Specification for eyebolts for lift suspension*;
- *Part 9: Specification for guide rails*;
- *Part 10: (See below)*;
- *Part 11: Recommendations for the installation of new, and the modernization of, electric lifts in existing buildings*;
- *Part 12: Recommendations for the installation of new, and the modernization of, hydraulic lifts in existing buildings*;
- *Part 13²⁾: Code of practice. Recommendations for vandal resistant lifts*;
- *Part 14²⁾: Specification for hand-powered service lifts*.

Further Parts are anticipated.

This Subsection is applicable to new hydraulic lifts manufactured and installed in accordance with BS 5655-2:1988.

The complete Part 10 consists of the following Sections and Subsections.

- *Section 10.1: Electric lifts*;
 - *Subsection 10.1.1: Commissioning tests for new lifts*;
 - *Subsection 10.1.2²⁾: Commissioning tests after modernization*;
 - *Subsection 10.1.3²⁾: Periodic examination*;
- *Section 10.2: Hydraulic lifts*;
 - *Subsection 10.2.1: Commissioning tests for new lifts*;
 - *Subsection 10.2.2²⁾: Commissioning tests after modernization*;
 - *Subsection 10.2.3²⁾: Periodic examination*.

Further Sections are anticipated.

BS 5655-10 has been revised to take account of experience gained in the field since its initial publication in 1986. Additionally, it has been restructured in the form of separate Sections and Subsections to differentiate clearly between lift types, and between tests and examinations performed at the time of installation, and examinations which take place over the life of a lift installation.

¹⁾ Reserved for future publication.

²⁾ In preparation.

As successive Subsections of Sections 10.1 and 10.2 are published, they will revise and replace the corresponding sections of BS 5655-10:1986. On publication of the complete Sections 10.1 and 10.2, BS 5655-10:1986 will be withdrawn.

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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.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This Subsection of BS 5655 specifies requirements for the testing and examination of new hydraulic lifts covered by BS 5655-2:1988, before the lift is put into service.

NOTE 1 *Italic type is used in Table 1 where there is a reference to a requirement of BS 5655-2:1988.*

This Subsection does not specify such requirements for hydraulic lifts after modernization, or for the periodic examination of hydraulic lifts.

This Subsection includes a proforma for a certificate of test and examination (Table 1) which covers construction, certain aspects of performance, and contract data. A requirement to provide test certificates relating to certain components of the equipment is also specified in this Subsection.

NOTE 2 Guidance on testing and inspection is given in section 2 of BS 5655-6.

2 References

2.1 Normative references

This Subsection of BS 5655-10 incorporates, by dated or undated reference, provisions from other publications. These normative references are made at the appropriate places in the text and the cited publications are listed on the inside back cover. For dated references, only the edition cited applies; any subsequent amendments to or revisions of the cited publication apply to this Subsection of BS 5655-10 only when incorporated in the reference by amendment or revision. For undated references, the latest edition of the cited publication applies, together with any amendments.

2.2 Informative references

This Subsection of BS 5655-10 refers to other publications that provide information or guidance. Editions of these publications current at the time of issue of this standard are listed on the inside back cover, but reference should be made to the latest editions.

3 Definitions

For the purposes of this Subsection of BS 5655-10, the definitions given in clause 3 of BS 5655-2:1988 apply.

4 Test and examination

NOTE All test weights, test equipment, instruments and personnel needed to complete the testing and examination after installation should be provided by the lift contractor. A power supply at the appropriate voltage and frequency, for test and adjustment purposes, should be provided by the purchaser.

4.1 The tests, and a thorough inspection of the entire equipment, necessary to complete a test and examination certificate following the form and content of Table 1, shall be performed for every installation before it is put into normal service, i.e. at the time of commissioning. The certificate shall be completed in all respects. The installation shall also be tested in accordance with clauses 5 and 6.

4.2 Copies of test certificates relating to particular components shall be available prior to, or during, commissioning tests. These test certificates shall relate to individual or type tests carried out by the component manufacturer, the lift contractor, or an independent body.

4.3 Copies of completed certificates appropriate to the type of equipment, as specified in 4.1 shall be available for inspection in accordance with 16.2.2 of BS 5655-2:1988.

5 High-voltage test (at manufacturer's works)

The dielectric of electrical apparatus (excluding motors, generators, transformers, electronic apparatus and instruments, which should be tested in accordance with the appropriate British Standard), shall withstand a test voltage of 10 times the working voltage, with a maximum of 2 000 V, when applied as follows:

- a) between the live parts and the case or the frame with all circuits completed;
- b) between main terminals or equivalent parts with all circuits open;
- c) between any live parts of independent circuits.

The test voltage shall be alternating, of approximately sine wave form, with a frequency of approximately 50 Hz, and shall be applied for 1 min.

NOTE As it is impractical to apply the foregoing tests b) and c) on controllers and similar apparatus after controller wiring has been completed, these tests should be made at convenient stages of manufacture. A test certificate to this effect issued by the manufacturer is acceptable.

6 Electrical tests (after installation)

Electrical installations, excluding electronic equipment, shall be subjected to tests, by instruments, as follows.

- a) Apply a d.c. test voltage which is not less than twice the r.m.s. value of the a.c. supply voltage, or not greater than 500 V d.c. for low-voltage circuits, to prove that the insulation resistance to earth is not less than 0.5 M Ω .

NOTE If dampness in a new building prevents a reading of 0.5 M Ω from being obtained, an insulation resistance of 0.25 M Ω is provisionally acceptable provided a retest figure of 0.5 M Ω is obtained when conditions in the building improve.

- b) Determine that the earthing of all conduit, trunking, switchcases, and similar metal work is continuous and does not exceed 0.5 Ω impedance.

NOTE A lift installation is considered to be a self-contained piece of equipment and as such is not required to conform in all respects to BS 7671:1992 (formerly the IEE Regulations for Electrical Installations), in particular with regard to the earthing of all apparatus, e.g. guides, door panels.

Table 1 — Certificate of test and examination for hydraulic passenger and goods lifts

Notes for the completion of this certificate																												
1. The references quoted below in association with a Part number refer to clauses, figures, tables or annexes of the stated Part of BS 5655. Other clause numbers relate to this Subsection of BS 5655. 2. Statements and replies to all relevant questions should be entered in the appropriate boxes. Where multiple-choice questions are posed, only one of the alternative boxes should be ticked. 3. Boxes marked with an asterisk (*) should be completed by the vendor's design office. 4. <i>Italic type is used where reference is made to a requirement of BS 5655 : Part 2 : 1988.</i>																												
1 Description of installation																												
Location: *	Vendor: *																											
Length of travel: m * Number of levels served: Total: * Front: * Rear: * Side: *	Vendor's identification number: *																											
<i>Is the lift designed to either 8.2.1 table 1.1 of Part 2</i> Yes * No * or <i>8.2.2 table 1.1.A of Part 2?</i> Yes * No *	Purchaser's identification number: *																											
Rated load: kg * persons Rated speed up: m/s * Rated speed down: m/s *	Power supply: Permanent: Temporary: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 20%; text-align: center;">Specified</th> <th style="width: 20%; text-align: center;">Actual at time of test</th> </tr> </thead> <tbody> <tr> <td>Voltage:</td> <td> V *</td> <td> V</td> </tr> <tr> <td>Phase:</td> <td> *</td> <td> </td> </tr> <tr> <td>Frequency:</td> <td> Hz *</td> <td> Hz</td> </tr> <tr> <td>Wire (3 or 4?):</td> <td> *</td> <td> </td> </tr> <tr> <td>Fuse rating:</td> <td> A *</td> <td> A</td> </tr> <tr> <td>Fuse type:</td> <td> *</td> <td> </td> </tr> </tbody> </table> Are the above entries acceptable? Yes No		Specified	Actual at time of test	Voltage:	V *	V	Phase:	*		Frequency:	Hz *	Hz	Wire (3 or 4?):	*		Fuse rating:	A *	A	Fuse type:	*							
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Voltage:	V *	V																										
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Wire (3 or 4?):	*																											
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Machine room location (tick relevant box) <table style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 20%; text-align: center;">Adjacent</th> <th style="width: 20%; text-align: center;">Remote</th> </tr> </thead> <tbody> <tr> <td>Above well</td> <td> *</td> <td> *</td> </tr> <tr> <td>Below well</td> <td> *</td> <td> *</td> </tr> <tr> <td>At side</td> <td> *</td> <td> *</td> </tr> </tbody> </table> Approximate distance from well: m N/A		Adjacent	Remote	Above well	*	*	Below well	*	*	At side	*	*	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 20%; text-align: center;">Specified</th> <th style="width: 20%; text-align: center;">Actual</th> </tr> </thead> <tbody> <tr> <td>Main switch rating:</td> <td> A *</td> <td> A</td> </tr> <tr> <td>Is the switch fused? Yes * No *</td> <td>Yes No </td> <td>Yes No </td> </tr> <tr> <td>Is it lockable off? Yes * No *</td> <td>Yes No </td> <td>Yes No </td> </tr> <tr> <td>Number of poles</td> <td> *</td> <td> </td> </tr> </tbody> </table> NOTE. A four-pole switch is necessary if emergency lowering is fitted. <i>When electrical anti-creep is fitted, is there a notice as specified in 15.4.6 of Part 2?</i> Yes No		Specified	Actual	Main switch rating:	A *	A	Is the switch fused? Yes * No *	Yes No	Yes No	Is it lockable off? Yes * No *	Yes No	Yes No	Number of poles	*	
	Adjacent	Remote																										
Above well	*	*																										
Below well	*	*																										
At side	*	*																										
	Specified	Actual																										
Main switch rating:	A *	A																										
Is the switch fused? Yes * No *	Yes No	Yes No																										
Is it lockable off? Yes * No *	Yes No	Yes No																										
Number of poles	*																											
Machine room temperature at start of dynamic tests: °C																												