

Thief Resistant Electromechanically Operated Lock Assemblies

DHF TS 621:2011



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Introduction

This Technical Specification was prepared by **dhf** in response to a market requirement for third party certification of thief resistant electromechanically operated lock assemblies.

It is hoped that it may in due course be replaced by a British standard (BS) or a publically available specification (PAS); if and when this occurs, this specification will be withdrawn.

Although it is possible for lock manufacturers to test their own products to this specification, users are recommended to consider the benefits of third party certification against this specification.

This specification incorporates requirements from BS EN 14846:2008, BS EN 1303:2005, BS 3621:2007 amendment 1, and PAS 3621:2011

Amongst the requirements of BS 3621:2007 which are referenced in this specification is an assessment for general vulnerability. To this is added a requirement for an assessment of a locks' electromechanical vulnerability, specified herein in Annex A. These assessments are essential to simulate a criminal attack as accurately as possible.

Also referenced in this specification is the BS 3621:2007 requirement for the qualifications and experience of personnel undertaking these assessments.

Suitability of the application

Doors and frames to which lock assemblies conforming to this Technical Specification are attached should be of adequate strength and should be designed to resist criminal attack.

1. Scope

This Technical Specification describes performance requirements and test methods for single or multipoint thief resistant electromechanically operated lock assemblies (including the lock interface, striking plate, fixing screws, fitting instructions, and where appropriate, cylinder and protective furniture, but not the credentials) that:

- a) incorporate an electromechanically operated lock according to BS EN 14846
- b) are used in doors, window doors and entrance doors in buildings

Because functional differences such as key egress, keyless egress and dual mode operation can be determined electromechanically, all variants are covered in this one document.

2. Referenced documents

The following referenced documents are indispensable for the application of this Technical Specification. For dated references, only the cited edition applies. For undated references, the latest edition of the document (including any amendments) applies

BS 7398:1991	Specification for hand hacksaw frames
BS EN 1303:2005	Building hardware - Cylinders for locks - Requirements and test methods
BS EN 12209:2003	Building hardware - Locks and latches - Mechanically operated locks, latches and locking plates - Requirements and test methods
BS EN 14846:2008	Building hardware - Locks and latches - Electromechanically operated locks and striking plates - Requirements and test methods
PAS 24:2007	Enhanced security performance requirements for door assemblies - Single and double leaf, hinged external door assemblies to dwellings
PAS 3621:2011	Thief resistant multipoint lock assemblies - key egress

Thattham motor insurance repair research centre's Security system evaluation passenger cars TQSD 014.08 revision 3 of July 2006

3. Definitions

For the purpose of this Technical Specification, the terms and definitions given in BS 14846, BS EN 12209, BS EN 1303, PAS 24, PAS 3621 and the following apply:

3.1 Lock

Mechanism that secures the door in the closed position (see Fig.1 on page 5)

3.2 Lock interface

Unit that communicates with the lock to change the lock status (see Fig.1 on page 5)

3.3 Credential

Element or unit that communicates with the lock interface (see Fig.1 on page 5)

4. Lock and lock interface

4.1 General

Lock and lock interface shall comply with BS EN 14846 to the following minimum classification

2	M (see 4.2)	4	0	-	H	7 or 5 (see 4.3)	0	3
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4.2 Durability (2nd digit in BS EN 14846 classification)

4.2.1 Non-standard test regimes

Where the durability test regime is not fully defined, a suitable test regime shall be devised in line with the principles of BS EN 12209 or PAS 3621, as appropriate

4.2.2 Locks designed to be used with a cylinder

Testing shall be performed on a lock assembly that includes the cylinder with which it is intended to be used

4.3 Security and drill resistance (7th digit in BS EN 14846) classification

4.3.1 Single point locks

BS EN 12209:2003 security grade 7 shall apply

Multipoint locks

PAS 3621:2011 requirements (security grade 5) shall apply

4.3.2 Locks designed to be used with a cylinder

Testing shall be performed on a lock assembly that includes the cylinder with which it is intended to be used

4.4 Resistance to dust and moisture

Lock elements exposed on the secure face of the door shall meet the ingress protection IP 54 rating when tested in accordance with BS EN 60529

4.5 Mechanical release of the lock from the inside face of the door

The lock shall have a mechanical override on the inside face of the door to allow egress due to function failure due to power loss

5. Credentials

Credentials used with lock assemblies conforming to this Technical Specification must comply with the relevant European Council Directives listed below:

- Radio and Telecommunications Terminal Equipment (R&TTE) Directive 1999/5/EC
- Electromagnetic Compatibility (EMC) Directive 2004/108/EC
- Low Voltage Directive (LVD) 2006/95/EC

Wire-free keys shall comply with Thatcham Security system evaluation passenger cars TQSD 014.08 revision 3 of July 2006 clause 4.4.2 with the modification that the first sentence in paragraph 3 shall be replaced by: "The minimum duration to sequentially scan through 5% of unique code combination shall be 24h. (e.g. if the key fob has 1million possible combinations it should not be possible to run through 50,000 unique codes within 24h)"

6. Cylinders

Cylinders shall comply with the requirements of clause 5 of BS 3621:2007 Amendment 1

7. Vulnerability of lock assembly

Locks shall comply with the requirements of clause 6 of BS 3621:2007 Amendment 1, with the following modifications:

- a) The term "general vulnerability" in clause 6.1.1 shall be understood to include electromechanical vulnerability;
- b) Clause 6.2 shall apply to lock assemblies incorporating a cylinder and/or an exposed lock interface;
- c) Lock assemblies acceptable for test under clause 6.2.1(a) shall include, additionally, a lock which has not been subject to any strength or environmental tests;
- d) Clause 6.2.1(b) shall apply to single-point lock assemblies; multi-point lock assemblies shall be mounted on a test door as described in PAS 3621:2011 clause 6.1.3;
- e) References to Annex A or Annex B shall be understood as references to clause 8 of this specification.

8. Vulnerability assessment

Annexes A and B of BS 3621:2007 Amendment 1 shall apply, with the following modifications and additions:

- a) Annex A.3 shall apply to single point lock assemblies; multipoint test samples shall be mounted on a test door as described in PAS 3621:2011 clause 6.1.3, and shall similarly be verified as fully functional.
- b) Annex A.5.(ii) shall be replaced by: "The assessment shall be carried out in two stages as follows: Electromechanical vulnerability assessment: Using the tools specified in Table 1 the assessors shall attempt to render the lock assembly insecure using knowledge and skill, rather than excessive force; General vulnerability assessment: Using the tools specified in Table 2 the assessors shall attempt to open the lock assembly using manual dexterity and manipulative skills, rather than excessive force. (Note: Should the assessor believe that it is possible to open the lock assembly using a tool that is not listed in either table, but which is readily available, this shall not, at that point, be recorded as a failure, but shall be reported to **dhf**)"
- c) Clause A.7, first sentence, shall be amended to read: "Only the tools listed in the Tables below may be used for the vulnerability assessments"
- d) Clause A.7, table A.1 becomes table 2 and a new table 1 is inserted.

9. Marking and information to be supplied by the manufacturer

Locks shall comply with clauses 9 and 10 of BS 3621:2007 Amendment 1 with the following modifications:

- a) Marking shall be in accordance with BS EN 14846:2008;
- b) The nine character classification code specified in clause 4.2 of BS EN 14846:2008 shall be used;
- c) Product information shall be supplied in accordance with clause 5.11 of BS EN 14846:2008;
- d) Clause 9.2 (d) of BS 3621:2007 Amendment 1 shall be replaced by "the number and publication date of this specification, ie: DHF TS 621:2011;"

Item	Additional details
Engineers pliers	Long and short nose
Side and face wire cutters	Large and small
Small magnet	1.2 tesla
Piezo-electric spark generator	
Freezing agent	0.5 litre can
Cigarette lighter	
Butane/Propane gas torch	
Knife	Max. blade dimensions – length 120mm, thickness 3mm
Scalpel	

Table 1

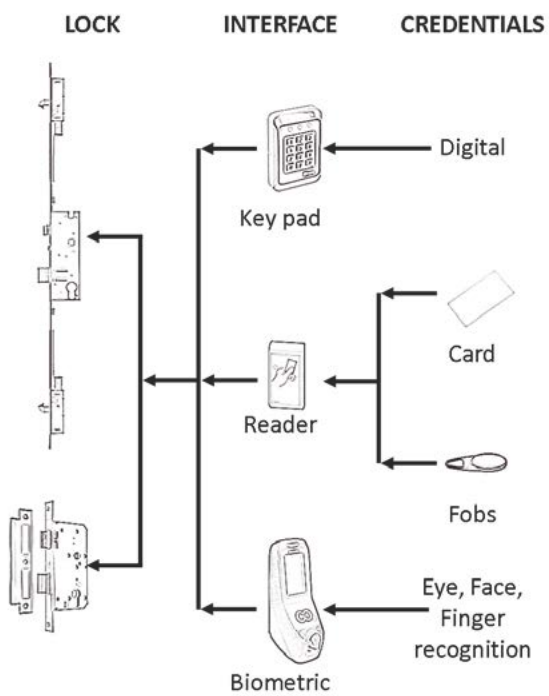


Figure 1





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