

GNB-CPD SG06	Guidance from the Group of Notified Bodies for the Construction Products Directive 89/106/EEC	NB-CPD/SG06/06/016r2 Issued: 11 August 2009 APPROVED – GUIDANCE
-------------------------	--	---

GNB-CPD position paper from SG06 - EN 12209:2003/AC:2005 (Certification of Mechanically Operated Locks, Latches and Locking Plates)

General scope, limitations and aim of this guidance for Notified Bodies (NBs)

This position paper contains guidance for Notified Bodies (NBs) involved in the certification of mechanically operated locks, latches and locking plates according to EN 12209:2003. The purpose is to help NBs work equivalently and come to common judgments. This guidance contains informative material (which NBs should or may follow) and normative guidance (which NBs shall follow or at least work equivalently to as circumstances demand).

This guidance is thought necessary to provide clarity and completeness for NBs so that they can work equivalently. It **supplements and makes practical for NBs** the harmonized standard EN 12209:2003, approved AG guidance, and Standing Committee guidance in the form of GPs, which also apply - unless otherwise explicitly stated in this guidance. This position paper should **not** contradict nor extend the scope of the work and role of a NB, nor impose additional burdens on the manufacturer, beyond those laid down in the CPD and EN 12209:2003.

This guidance should be considered valid until the relevant standards are amended to include the guidance (as thought fit by the CEN/TC); or until guidance from Commission, SCC, and AG has changed on relevant matters. Whereupon, the paper should be considered for withdrawal/revision and be replaced by new guidance as necessary.

This position paper was considered approved by SG06 and Advisory Group (AG) on 20 April 2005, and the revisions by SG06 on 4 August 2006 and 24 March 2009, and by AG on 12 January 2007 and 25 July 2009.

1 Introduction

Testing laboratories are now testing to this harmonised standard, and a number of anomalies, lack of precision and ambiguities in the text of the standard have already been identified. It should be noted that the CEN task group charged with developing the standard (TC33/WG4/TG3) is aware of these issues and plan to incorporate the proposed guidance given in this document into the next revision of EN 12209.

In the meantime, it is considered necessary to give some concrete interpretations and guidance to the Notified Bodies so that they may achieve an acceptable level of transparency, reproducibility and equivalence of results across the member countries of the EU.

The following list identifies those clauses where a common position should be agreed by the Notified Bodies, and is followed by proposed guidance, which has already been agreed by TC33/WG4/TG3 and which will be incorporated in the first revision to this standard.

The original version of this position paper included modifications to Table 3 of §4.2.8 'Field of door application', §8.1 'Initial type test' and Table ZA.1 'Scope and clauses of this standard applying to essential characteristics' that have since been incorporated into EN 12209:2003 by means of Corrigendum No. 1 (EN 12209:2003/AC:2005). Accordingly, these clauses were omitted from revision 1 of the position paper. Revision 2 incorporates further guidance on clauses §5.11.1 and §5.11.3, and modifications to the guidance on Annex A as a result of TC/33's intention, following the publication of EN 1634-2, to exclude fire text evidence according to EN 1634-2 when revising EN 12209.

2 Guidance

2.1 EN 12209:2003 §4.2.3 Door mass and closing force (third digit)

The use of the word "or" for grades 3,6 and 9 implies that the manufacturer can specify any door mass, which is not correct, as the door must be above 200Kg.

For grade 3,6 and 9 text shall therefore be read as follows:

Above 200Kg door mass as specified by the manufacturer

2.2 EN 12209:2003 §4.2.7 Security and drill resistance

No grade is shown for locks that do not have security in the form of a deadlocking bolt. Until the next revision of the standard, it is proposed that a dash shall be placed in classification box of locks that offer no security.

The following text shall therefore be added:

– No security

2.3 EN 12209:2003 §5.2.2 Torque to operate deadbolt

This clause is ambiguous in that it is not clear if this clause is applicable to all types of lock. The following note shall therefore apply:

NOTE This clause shall be applied to any deadlocking bolt that is operated by either a key or a handle.

2.4 EN 12209:2003 §5.2.3 Strength of normal latch action and stops

This clause is ambiguous in that it is not clear if this clause is applicable to all types of lock. The following note shall therefore apply:

NOTE This clause shall be applied to the followers of all types of latch bolts.

2.5 EN 12209:2003 §5.3.1 Durability of latch action

This clause is ambiguous in that it is not clear that this clause should also be applied to automatically locking deadbolts that can be withdrawn by a handle. The following note shall therefore apply:

NOTE This clause shall be applied to automatically locking deadbolts that can be withdrawn by a handle/knob.

2.6 EN 12209:2003 §5.3.2 Durability of deadbolt mechanism

This clause is ambiguous in that it is not clear if this clause is applicable to all types of lock. The following note shall therefore apply:

NOTE This clause shall be applied to any deadlocking bolt that is operated by a key.

2.7 EN 12209:2003 §5.4.2 Closing force

This clause is ambiguous in that it is not clear if this clause is applicable to all types of lock. The following note shall therefore apply:

NOTE This clause shall be applied to all locks with latches, automatically locking deadbolts and sliding door locks.

2.8 EN 12209:2003 §5.7.1 Corrosion resistance states

When tested in accordance with 6.7.1, the torque M2 on key or follower to operate the deadbolt or latch bolt shall not exceed figures for 5.2.2 and 5.11.1 by more than 20 %.

The above text shall be replaced by following:

When tested in accordance with 6.7.1, the torque on key or follower to operate the deadbolt or latch bolt shall not exceed maximum figures for 5.2.2 and 5.11.1 by more than 20 %.

2.9 EN 12209:2003 §5.8.5 Resistance to pulling of hook/claw bolt.

This clause failed to include the requirement that grade 5 and 7 security locks should be subjected to drilling before the direct pull is applied. This is obviously required, as all other types of lock with grade 5 and 7 security have to be drilled prior to the force being applied. The following text shall therefore apply:

Locks of security grade 5 and 7 shall be subjected to a drilling time "t" in accordance with the revised requirements of clause 6.8.5 and afterwards resist a direct pull of F6.

2.10 EN 12209:2003 §5.8.6 Resistance to disengaging of hook/claw bolt.

This clause failed to include the requirement that grade 5 and 7 security locks should be subjected to drilling before the disengaging force is applied. This is obviously required, as all other types of

lock with grade 5 and 7 security have to be drilled prior to the force being applied. The following text shall therefore apply:

Locks of security grade 5 and 7 shall be subjected to a drilling time “t” in accordance with the revised requirements of clause 6.8.6 and afterwards resist a disengaging force of F7.

2.11 EN 12209:2003 §5.8.7 Resistance to forcing of locating device in sliding door lock.

This clause failed to include the requirement that grade 5 and 7 security locks should be subjected to drilling before the force F8 is applied to the locating device. This is obviously required, as all other types of lock with grade 5 and 7 security have to be drilled prior to the force being applied. The following text shall therefore apply:

Locks of security grade 5 and 7 shall be subjected to a drilling time “t” in accordance with the revised requirements of clause 6.8.7 and afterwards the locating device shall resist a force of F8.

2.12 EN 12209:2003 §5.8.9.1 Resistance to end load on box protected locking plate

This clause states that criteria A shall apply which does not allow any plastic deformation to take place. This was deemed to be too severe as in practice some products exhibit plastic deformation but still fulfil their function perfectly well. The second sentence shall therefore be considered replaced by the following:

Performance criteria B shall apply.

2.13 EN 12209:2003 §5.8.9.2 Resistance to side load on locking plate

This clause states that criteria A shall apply which does not allow any plastic deformation to take place. This was deemed to be too severe as in practice some products exhibit plastic deformation but still fulfil their function perfectly well. The second sentence shall therefore be considered replaced by the following:

Performance criteria B shall apply.

2.14 EN 12209:2003 §5.9.2 Protection against removal from door

The last sentence of this clause implies that security is required from the inside on grades A, D which is obviously incorrect as locks to these grades are keyless egress. The final sentence shall therefore be considered replaced by the following:

Applicable for grades K to T only.

2.15 EN 12209:2003 §5.10.2.2 Manual locking with intermediate locking positions

The title of this clause is misleading, as it appears to relate to clause 5.10.2.1 b) which covers an entirely different type of lock. The title shall therefore be considered replaced by the following:

5.10.2.2 Manual locking with multiple turns

2.16 EN 12209:2003 §5.11.1 Torque to withdraw the latch bolt

When tested in accordance with 6.11.1, the torque M2 on the follower for operation the latch shall not exceed (see Figure 1):

The above text shall be replaced by the following:

When tested in accordance with 6.11.1, the torque on the follower for operation the latch alone or the deadbolt and latch in combination shall not exceed (see Figure 1):

2.17 EN 12209:2003 §5.11.1 Torque to withdraw latch Bolt & §5.11.3 Minimum follower restoring torque.

When testing to the above two clauses of EN 12209 a number of locks are being found to comply with the latch withdrawal torque to grade 2 and the minimum restoring torque to grade 1. It is therefore not possible to apply a grade to these locks without some interpretation to the standard.

The following guidance shall therefore be followed for locks that pass to different grades under the same classification digit:

When a lock achieves two different grades under the same classification then it shall be classified to the lowest of the two grades achieved. I.e. if a lock achieved a grade 2 latch withdrawal and grade 1 restoring torque, then it shall be classified as grade 1 only suitable for knob or sprung lever furniture.

2.18 EN 12209:2003 §5.12.5 Coding protection

This clause refers to grade 1 which does not exist. The text shall therefore be considered replaced by the following:

Except for grade A, direct coding on the key is not permitted.

2.19 EN 12209:2003 §6.2.1 Resistance to side load on latch states

The lock or the latch shall be mounted as shown in Figure B.1a) or B.1b) using metal thread screws of equivalent strength to the fixing means supplied/recommended by the manufacturer.

The choice to use either B.1a) or B.1b) method for mounting should be determined by the manufacturer.

A force F1 shall be applied to the securing face of the latch bolt, 3 mm ± 0,2 mm from the forend.

Force applied by a tool according to Figure B.1c).

The latch action shall not be affected as a result of this test.

The above text shall be replaced by following:

The lock or the latch shall be mounted as shown in Figure B.1a) or B.1b) using metal thread screws of equivalent strength to the fixing means supplied/recommended by the manufacturer.

The choice to use either B.1a) or B.1b) method for mounting should be determined by the manufacturer.

A force F_1 shall be applied to the securing face of the latch bolt.

The force shall be applied by the tool according to B1c. The distance between the tool and the forend shall be $3\text{ mm} \pm 0,2\text{ mm}$ according figure B1a, B1b or B1d.

The latch action shall not be affected as a result of this test.

2.20 EN 12209:2003 §6.3.2 Durability of Deadbolt mechanism

The present test method does not cater for automatically locking deadbolts, which have to be triggered by contact with the locking plate. A third test cycle shall be considered added as follows:

Where the bolt is in the form of an automatically locking deadbolt the following test cycle shall be followed:

- j) insert key into lock*
- k) rotate key sufficiently to fully withdraw deadbolt*
- l) rotate key to withdrawal position and remove it from lock*
- m) depress trigger to throw deadbolt fully*

2.21 EN 12209:2003 §6.8.5 Resistance to pulling of hook/claw bolt

This clause does not include the drill test requirements for grade 5 and 7. The following text shall be considered added below the existing test method:

For security grades 5 and 7 the product, including any manufacturer specified accessories shall be mounted in a 44mm thick wooden block, which is mounted in a test apparatus suitable for use with a drilling machine as shown in figure B.3. The drilling machine shall have a power of 500W to 700W and a speed of 500r/min to 800r/min. A high-speed steel drill to ISO 10899 or equivalent shall be used, having a maximum diameter of 5mm. A force of $300\text{N} \pm 25\text{N}$ shall be applied axially to the drill.

A maximum of three drills may be used for each test. No coolant or lubrication shall be applied to the drill during the test. Drilling shall continue for the appropriate maximum net drilling time within the total time allowed for each test (see table 5 clause 5.8.4.2 for drilling times).

Drilling shall be directed towards any elements in the lock or the bolt itself in an attempt to drill them away and allow the bolt to be pulled from the lock.

The lock shall then be mounted in a suitable fixture as shown in figure B.5, using metal thread screws of equivalent strength to the fixings supplied/recommended by the manufacturer, and a tensile force F_6 applied to the bolt perpendicular to the for-end for a period of $60\text{s} +10\text{s} -0\text{s}$.

2.22 EN 12209:2003 §6.8.6 Resistance to disengaging of hook/claw bolt

This clause does not include the drill test requirements for grade 5 and 7. The following text shall be considered added below the existing test method:

For security grades 5 and 7 the product, including any manufacturer specified accessories shall be mounted in a 44mm thick wooden block, which is mounted in a test apparatus suitable for use with a drilling machine as shown in figure B.3. The drilling machine shall have a power of 500W to 700W and a speed of 500r/min to 800r/min. A high-speed steel drill to ISO 10899 or equivalent shall be used, having a maximum diameter of 5mm. A force of 300N ± 25N shall be applied axially to the drill.

A maximum of three drills may be used for each test. No coolant or lubrication shall be applied to the drill during the test. Drilling shall continue for the appropriate maximum net drilling time within the total time allowed for each test (see table 5 clause 5.8.4.2 for drilling times).

Drilling shall be directed towards any elements in the lock or the bolt itself in an attempt to drill them away and allow the bolt to be opened.

The lock shall then be mounted as for test 6.8.5 and a force F7 applied 3mm from the forend in the unlocking direction of the bolt as shown in figure B.5.b, for a period of 60s +10s –0s. It is not necessary for lock to be operable by key after the test.

2.23 EN 12209:2003 §6.8.7 Resistance to forcing of locating device in sliding door locks

This clause does not include the drill test requirements for grade 5 and 7. The following text shall be considered added below the existing test method:

For security grades 5 and 7 the product, including any manufacturer specified accessories shall be mounted in a 44mm thick wooden block, which is mounted in a test apparatus suitable for use with a drilling machine as shown in figure B.3. The drilling machine shall have a power of 500W to 700W and a speed of 500r/min to 800r/min. A high-speed steel drill to ISO 10899 or equivalent shall be used, having a maximum diameter of 5mm. A force of 300N ± 25N shall be applied axially to the drill.

A maximum of three drills may be used for each test. No coolant or lubrication shall be applied to the drill during the test. Drilling shall continue for the appropriate maximum net drilling time within the total time allowed for each test (see table 5 clause 5.8.4.2 for drilling times).

Drilling shall be directed towards any elements in the lock or the locating device itself in an attempt to drill them away and allow the bolt to deform.

The lock shall then be mounted as for test 6.8.5 and a force F8 applied 3mm from the for-end in the locking direction of the bolt as shown in figure B.5.c, for a period of 60s +10s –0s.

2.24 EN 12209:2003 §6.10.2.1 Manual locking

Due to the geometry and action of swing bolt type mechanisms it is likely that most bolts of this type will fail to operate when a 15N endload is applied. As the important criteria for this clause is that the key cannot be removed from the lock unless it is in its unlocked position or its fully thrown and deadlocked position it is proposed to reduce the end load requirement to 5N for this type of lock. The following note shall therefore be considered added:

NOTE The endload requirement of 15N may be reduced to 5N for swing type bolts.

2.25 EN 12209:2003 Annex A (normative) Fire resistance requirement 1st clause states

Products representative of their type shall have been subjected to a successful fire test from both sides, according to EN 1634-1 or prEN 1634-2, to prove the effect of the product on the fire resistance of the complete door assembly. It is not necessary for the product to be operable after such a fire test.

NOTE A wider field of application will be obtained by subjecting the product to a test in accordance with another part of prEN 1634, currently prepared by CEN/TC 127 (prEN 1634-2, Fire testing of door and shutter assemblies - Part 2: Small scale testing of items of door hardware). Until prEN 1634-2 for fire testing is applicable, existing national regulations for fire testing can be used.

Where there is a latching function it shall comply with the requirements of 5.1.2, and there shall be no means of inhibiting the latching function, other than by a key controlled deadbolt.

Following the publication of EN 1634-2, TC/33 proposes, in the next revision of EN 12209, to exclude fire text evidence according to EN 1634-2. Thus the above text shall be replaced by the following:

Products representative of their type shall have been subjected to a successful fire test from both sides, according to EN 1634-1, to prove the effect of the product on the fire resistance of the complete door assembly. It is not necessary for the product to be operable after such a fire test.

Where there is a latching function it shall comply with the requirements of 5.1.2, and there shall be no means of inhibiting the latching function.

NOTE The use of a deadbolt may prevent self closing of the fire door. It is the responsibility of local authorities to decide which type of deadbolt operation is acceptable.

2.26 EN 12209:2003 Annex C Table C.1-Test sampling and sequencing for locks and latches

Clause 6.11.3 is shown as being applicable only to bored locks samples F and N in this table, however this clause is intended to be applied to any lock with a latch. This clause shall therefore be inserted into the fifth column of table C.1 locks with latch follower. This test shall be carried out both before and after durability to ensure the lock is still functioning correctly and is capable of returning the lever furniture to its at rest position. The fifth column of table C.1 shall therefore be considered replaced as follows:

<i>Locks with latch follower (where applicable)</i>
<i>Sample D and L</i>
<i>6.1.2 Return force of latch bolt</i>
<i>6.10.3 Torque to withdraw the latch bolt with key</i>
<i>6.11.1 Torque to withdraw latch bolt with handle</i>
<i>6.11.3 Minimum follower restoring torque</i>

6.4.2 Closing force
6.3.1.1 Durability of latch action without force applied
6.3.1.2 Durability of latch action with force applied
6.11.3 Minimum follower restoring torque
6.3.3 Durability of locking snib mechanism
6.2.1 Resistance to side load on latch bolt
6.11.2 a) Strength of bolt actions the deadbolt mechanism
6.11.2. b) Strength of bolt actions. The latch bolt action

2.27 EN 12209:2003 Annex D Field of door application

Annex D table shows that clause 5.8.2.2 is applicable to Rim locks in grade J, M and N.

A note shall be added beneath the table that states:

Rim lock in grade J, M and N are only required to be tested from one side, the part of the lock turned to the outside of the door when testing to clause 5.8.2.2.

The field of door application table shown in this annex implies that box protected locking plates for rim locks are not intended to be tested to clause 5.8.9.1 resistance to end load on box protected locking plate. This is incorrect as the locking boxes for rim locks are intended to be tested. Therefore the N/A shown in the table for all types of rim lock locking plates should be removed for clause 5.8.9.1.