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TYPE TEST GUIDE

ECB-S R08

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1 INTRODUCTION

This guide shall be used by the ECB approved cooperation partners for products according to the annexes of this document.

As soon as the test application has been submitted to the cooperation partner, ECB shall be informed by the laboratory within one week.

The laboratory is responsible to plan, perform and record the tests in such a way that:

- All relevant information available prior and during the test is registered.
- Considerations for the chosen test methods are detailed.
- Consideration are made on why some methods and tools are not chosen.
- Comments and conclusions are supported by facts e.g. calculations, projections.
- Both applicant and certifier receive complete insight how the specimen performs in relation to the relevant standard.
- The result is a test report as reference for certification (incl. audits) and re-assessment in case of changes in the relevant standard, the design or materials used.

To ensure maximum consistency in test results, it is required that testing laboratories participate in audits, cooperative tests, experience-sharing events and other relevant training.

2 SELECTION OF THE TEST SPECIMENS

Together with the application, the applicant shall provide at least a draft of the technical documentation.

The documentation shall contain all the relevant information how required for the selection of the test specimens (see product-specific annex).

The complexity of the documentation depends on the design and the applied product and shall be agreed in advance with the laboratory and/or ECB.

Due the information the testing laboratory (if necessary in cooperation with ECB) shall choose which critical sizes/construction will be tested.

The selection of the test specimens is the responsibility of the laboratory or of the laboratory together with ECB. The aim is not to have more test specimens as needed to assess the complete range of products.

The customer shall be informed, which prototypes will be used for testing. The test specimens shall arrive minimum two weeks before the type test, including the complete technical documentation according to the applied standard (e.g. clause 5 of EN 1143-1) and **ECB•S C13**. The evaluation of the technical documentation shall be done from the test laboratory before the test however at the latest when creating the test report/assessment report

3 EXAMINATION OF THE SPECIMEN AND DOKUMENTATION

After receiving the complete documentation and test specimens, the laboratory carries out a comparison of specimens with the technical documentation (demand and status) as far as this is identifiable in advance without destruction test.

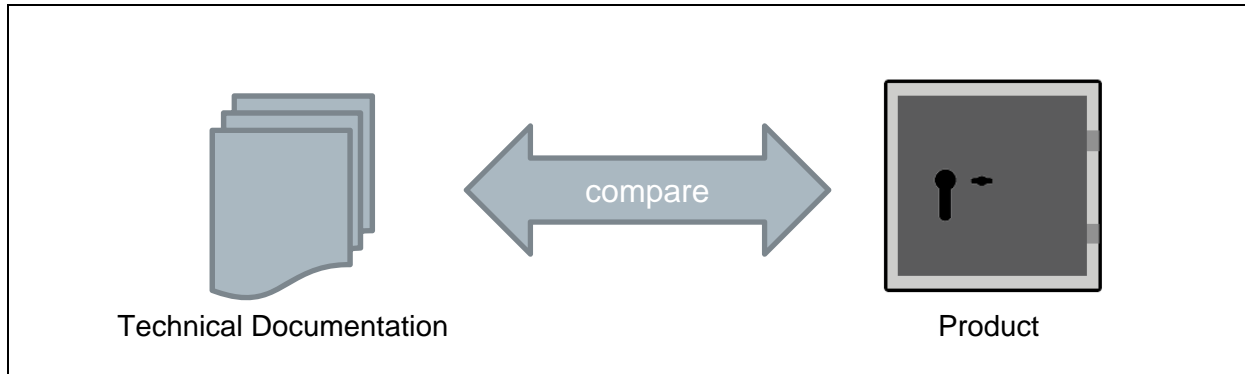


Figure 2: Technical documentation

- This comparison shall be documented in an identification record by the laboratory.
- The applicant shall be informed about any deviation before the test.
- All deviations shall be clarified, as far as possible, before the start of the test.
- The laboratory decides, whether the technical documentation and the test specimen is sufficient for the applied testing purposes.

4 TEST PLAN

If all relevant information is available, the laboratory will estimate the design's protective performance and create a meaningful test strategy considering the various tool combinations. This test strategy shall be documented by the laboratory

Note: Test strategy may be changed during testing depending on the performance and result in the process further on. Any change or deviation from the test strategy must be documented including the reasons.

Examples of test strategies are shown in the annexes.

5 PERFORMING THE FINAL TEST PROGRAM

The aim of this test is to subject the design to the optimal attack conditions as permitted by the relevant standard, and thus to determine the minimum resistance values. Each test can be repeated (without limit) if the test leader considers the execution not optimal.

The laboratory shall invite the applicant to witness the classification tests and provide full information on method, tools, observations and calculations that shall lead to the recorded protection level.

The laboratory shall use the test specimens as effective as possible (more than one test per specimen). Attacks can also be calculated (for example two holes are made with a drill and two holes are made with a torch. It can then be calculated how long it take to drill four holes with a drill or torch).

The testing laboratory is required to find the most effective tool with the limitations of the relevant standard.

For each test shall be documented:

- Date and place
- Applicant
- Test leader, test operatives, observers
- Attacking area
- Contact (sub) time of each tool, type of tools
- Total test time and result
- Any change of tools, tool bits
- Observations / remarks
- Measuring equipment and traceability to calibration
- Photographs or Video of tested surface

6 TEST REPORT

All information, considerations, test plans, observations and conclusions referred to shall be comprehensively collected in the test report. Both applicant and certification body will receive a copy.

Above all the test report shall include:

- Allocate a unique identification number to the test report.
- Name and address of the applicant (holder of the certificate)
- Name and address of the production site
- Manufacturer's identification of the test specimen (name of the series and name of the tested types)
- Date and place of testing
- Allocate a unique identification number of the test sample
- List of the technical documentation for the **test specimen**
- Record of the initial examination (examples are available from ECB by request)
- Testing program developed based on the initial examination
- Base for the test: E.g. EN 1143-1: 2012
- Composition of the testing team, the names of the testing team leader, the time keeper and the testing operatives, names of any independent technical experts consulted
- Names of the observers
- Attack type, including test observations and photographs
- Description and result of any exploratory access made, including part attacks
- Tables showing the used tools, basic value, tool coefficient and time
- Calculated resistance value for **each** tool attack

The report shall contain a statement that the results obtained relate only to the sample tested and should be regarded as only the basis for certification. The final decision on certification will be taken from European Certification Body GmbH.

7 ASSESSMENT REPORT

During the assessment it shall be checked, if the most critical type of the series was tested.

The assessment report shall be issued containing all sizes of the series and the complete list of the technical documentation with "file name", file code (including revision) and file date".

The list of the technical documentation shall not be a part list. See example:

EXAMPLE OF A LIST OF TECHNICAL DOCUMENTATION

TECHNICAL DOCUMENTATION	FILE NAME OF DOCUMENT	DATE	NUMBER OF PAGES
General Drawings			
Series overview	FAMILY XYZ, Rev 4	23.02.2012	1
Composition of filling material (if it is a concrete construction, here the mixture of the concrete shall be listed. If it is a wood construction, this line is not necessary)	Betamax 3	01.03.2014	2
Lock list	A34592, Rev 1	11.11.2013	1
Fixing system / Anchoring instruction	A34591	March 2014	8
Body Case	A34-452-12	11.12.2013	1
Door	A34-452-13	11.12.2013	1
Boltwork	A34-452-14	10.12.2013	1
Anchoring holes	A34-452-15	11.12.2013	1

Note: It is also possible to list the technical documentation directly in the assessment report.

If applicable the assessment report shall contain the evaluation of the complete range of the series including the locks which may be mounted on the safe. A reference to the lock list can also be done.

Furthermore, the assessment report shall include a note about the changes which have been made on the product after the test.

ANNEX A: FREE-STANDING SAFES

In addition to the general clauses, the following shall be looked at, when testing free standing safes:

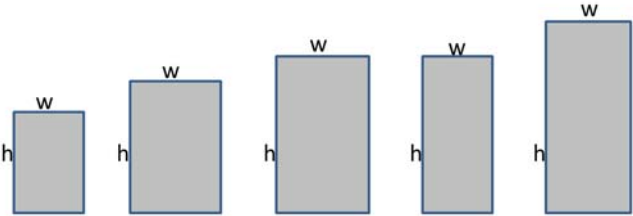
A.1 INTRODUCTION

This annex is for products of the following standards:

- EN 1143-1

A.2 SELECTION OF THE TEST SPECIMENS

The technical documentation shall show the planned sizes of the series as well as an overview about the positions and numbers of the bolts.



height	1520	1120	1520	1120	1520	1120
width	1252	1222	1252	1222	1252	1222
height/width	8634	864	8634	864	8634	864
height/width	1252	1222	1252	1222	1252	1222
width/height	212	2212	212	2212	212	2212
height	8634	864	8634	864	8634	864

Critical sizes could be:

- The smallest, the highest, the size with the weakest bolt/height/width ratio, etc.
- The most critical number and positions of the bolts shall be assessed.
- Furthermore, the most critical lock of the product specific lock list shall be tested (this can be e.g. a swing bolt lock or a mechanical combination lock).

Note: For some locks the construction must be changed, as they may not be allowed behind a hole or they have different mounting sizes.

Aim is not to have more test specimens as needed to assess the complete range of products.

A.3 TEST PLAN

Example of test strategy (not exhaustive)

Attack	Test method / tools / remarks	Change or deviation from the test strategy, including the reasons.
Anchoring test		
Partial access through the wall		
Partial access through the wall (different construction)		
Partial access through the door wall		
Complete access through the wall		
Complete access opening the door		
Built-in safe, removal from the encasement		

The test program shall always be created individually and can be updated during the test.

A.4 PERFORMING THE FINAL TEST PROGRAM

Test can be done at (not exhaustive):

- Anchoring test
- Partial access through the wall with different tool combinations
- Partial access through the door with different tool combinations
- Complete access through the wall with best tool combinations of partial access
- Complete access – Open the door by driving in the bolts
- Complete access – Open the door by cutting the bolts / bolt engagement
- Complete access – Open the door by driving in the bolt bars
- Complete access – Open the door by cutting the bolt bars
- Complete access – Open the door by cutting the blocking points
- Complete access – Wedge open the door
- Complete access – Remove the door
- Complete access – Open the door by driving in the lock
- Complete access – Open the door by removing the bolt mechanism
- Complete access – Attack the door from the inside through the partial access
- Complete access – Built-in safe, removal from the encasement

ANNEX B: ATM SAFE AND ATM BASE

In addition to the general clauses, the following shall be looked at, when testing standing ATM safes and ATM bases:

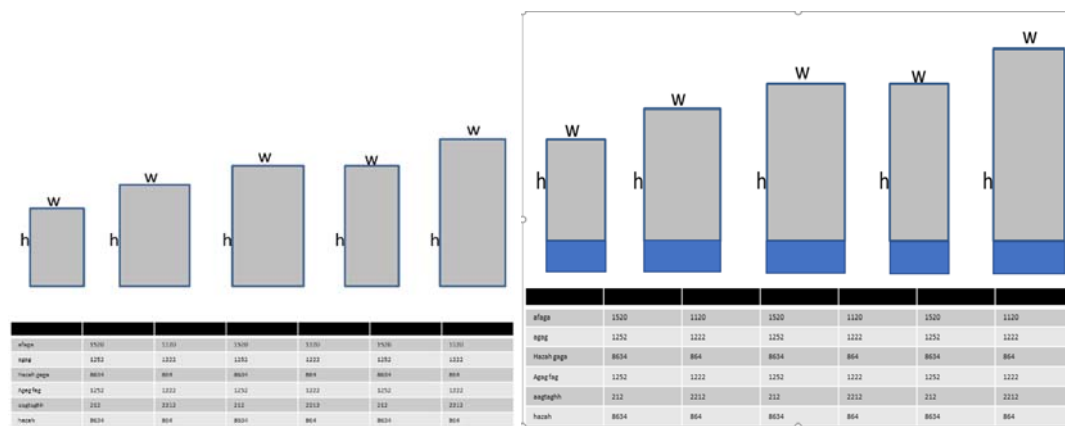
B.1 INTRODUCTION

This annex is for products of the following standards:

- EN 1143-1

B.2 SELECTION OF THE TEST SPECIMENS

The technical documentation shall show the planned sizes of the series as well as an overview about the positions and numbers of the bolts.



Critical sizes could be:

- The smallest, the highest, the size with the weakest bolt/height/width ratio, etc.
- The most critical model regarding the anchoring test in combination with the ATM base, usually the highest with the narrowest width.
- The most critical number and positions of the bolts shall be assessed.
- The most critical position of apertures.
- Furthermore, the most critical lock of the product specific lock list shall be tested (this can be e.g. a swing bolt lock or a mechanical combination lock).

Note: For some locks the construction must be changed, as they may not be allowed behind a hole or they have different mounting sizes.

Note: Depending on the variety of models and the critical features, more than one specimen may be required.

Aim is not to have more test specimens as needed to assess the complete range of products.

B.3 TEST PLAN

Example of test strategy (not exhaustive)

Attack	Test method / tools / remarks	Change or deviation from the test strategy, including the reasons.
Anchoring test ATM (Pushing)		
Anchoring test ATM + Base (Pushing)		
Tool attack test on Fixing attachment of the ATM		
Tool attack test on Fixing attachment of the Base		
Partial access through the wall		
Partial access through the wall (different construction)		
Partial access through the door wall		
Partial access on used apertures (for instance cash exit openings)		
Partial access on openings not blocked by the ATM system (for instance cable holes)		
Complete access through the wall		
Complete access opening the door		

The test program shall always be created individually and can be updated during the test.

B.4 PERFORMING THE FINAL TEST PROGRAM

Test can be done at (not exhaustive):

- Anchoring test ATM (Pushing)
- Anchoring test ATM + Base (Pushing)
- Tool attack test on fixing attachment of the ATM
- Tool attack test on fixing attachment of the Base
- Partial access through the wall with different tool combinations
- Partial access through the door with different tool combinations
- Partial access enlarges the apertures in under consideration used or unused
- Complete access through the wall with best tool combinations of partial access
- Complete access – Open the door by driving in the bolts
- Complete access – Open the door by cutting the bolts / bolt engagement
- Complete access – Open the door by driving in the bolt bars
- Complete access – Open the door by cutting in the bolt bars
- Complete access – Open the door by cutting in the blocking points
- Complete access – Wedge on the door
- Complete access – Remove the door
- Complete access – Open the door by driving in the Lock
- Complete access – Open the door by removing the bolt mechanism
- Complete access – Attack the door from the inside through the partial access
- Complete access – Attack the door from the inside through the apertures

ANNEX C: DEPOSIT SYSTEMS

In addition to the general clauses, the following shall be looked at, when testing deposit systems:

C.1 INTRODUCTION

This annex is for products of the following standards:

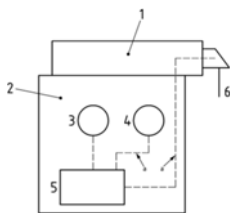
- EN 1143-2

Deposit safe: For deposit safes, the depositing functions are inside the premises of the company and are only intended to be disposable for the authorized personnel of the company. It is assumed that the authorized personnel carry out the depositions. Deposit safes are installed so the deposit functions are not available for the public. It is also assumed that a burglar does not have the code or key to the deposit functions for some kind of attacks.

Night safe: For night safes, the depositing functions are available to customers of financial institutions and, if locked, are disposable only for the authorized personnel of the customer. Night safes are installed so the deposit functions are available also for the public. It is also assumed that a burglar may have the code or key to the depositing functions.

Integrated deposit system

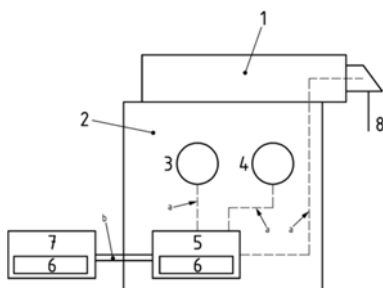
Deposit system controlled by programmable controllers in which the physical deposit sequences cannot be changed through links to devices outside the receiving unit.



1. input unit
2. receiving unit
3. motor
4. sensor
5. controller unit
6. user interface unit

Distributed deposit system

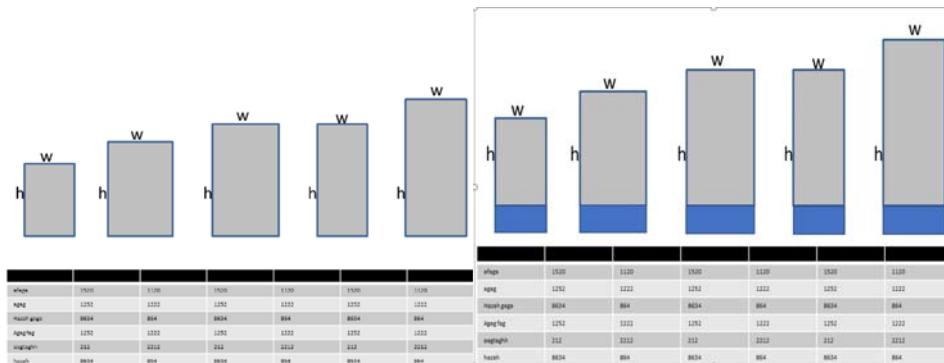
Deposit system controlled by programmable controllers in which the physical deposit sequences can be changed through links to devices outside the receiving unit.



1. input unit
 2. receiving unit
 3. motor
 4. sensor
 5. converter
 6. decoder/encoder
 7. controller unit
 8. user interface unit
- a unencrypted data transfer
b encrypted data transfer

C.2 SELECTION OF THE TEST SPECIMENS

The technical documentation shall show the planned sizes of the series as well as an overview about the positions and numbers of the bolts.



Critical sizes could be:

- The smallest, the highest, the size with the weakest bolt/height/width ratio, etc.
- The most critical model regarding the anchoring test, usually the highest with the narrowest width.
- The most critical number and positions of the bolts shall be assessed.
- Furthermore, the most critical lock of the product specific lock list shall be tested (this can be e.g. a swing bolt lock or a mechanical combination lock).

Note: For some locks the construction must be changed, as they may not be allowed behind a hole or they have different mounting sizes.

Note: Depending on the variety of models and the critical features, more than one specimen may be required.

Aim is not to have more test specimens as needed to assess the complete range of products.

C.3 TEST PLAN

Receiving units are basically safes according to EN 1143-1 which have apertures necessary for operation of the deposit system. Therefore, this plan is in addition to the test plan of free standing safes.

Example of test strategy (not exhaustive)

Attack	Test method / tools / remarks	Change or deviation from the test strategy, including the reasons.
Anchoring test Deposit System (Pushing)		
Anchoring test Deposit System + Base (Pushing)		
Tool attack test on Fixing attachment of the Deposit System		
Tool attack test on Fixing attachment of the Base		
<p>Forcing <u>Deposit Safe</u> The code or key shall not be available for the testing team. (it shall be a EN 1300 Lock)</p> <p><u>Night Safe</u> The code or key shall be available for the testing team</p> <p>Forcing may cause visible damages, changes and malfunctions of the deposit system</p>		
<p>Fishing <u>Deposit Safe / Night Safe</u> The code or key shall be available for the testing team</p> <p>Fishing is not intended to cause damage to the deposit system. Visible traces are allowed.</p>		
<p>Deposit retrieval <u>Deposit Safe / Night Safe</u> The code or key shall be available for the testing team</p> <p>The deposit retrieval tool attack test shall not leave traces in the deposit system visible in examination by experts.</p>		

Attack	Test method / tools / remarks	Change or deviation from the test strategy, including the reasons.
<p>Trapping last deposit Night Safe The code or key shall be available for the testing team</p> <p>The last deposit tool attack test may cause damage and or leave traces visible to the depositor. The deposit system may be inoperative after fulfilled test</p>		
<p>Trapping last deposit Repeated Trapping Night Safe</p> <p>The code or key shall be available for the testing team</p> <p>Deposit repeated trapping tool attack tests shall not leave traces visible to the depositor and the system shall work after removal of deposits</p>		

The test program shall always be created individually and can be updated during the test.

C.4 PERFORMING THE FINAL TEST PROGRAM

Test can be done at (not exhaustive):

- Anchoring test Deposit System (Pushing)
- Anchoring test Deposit System + Base (Pushing)
- Tool attack test on fixing attachment of the Deposit System
- Tool attack test on fixing attachment of the Base
- Forcing with different tool combinations
- Fishing
- Deposit retrieval
- Trapping last deposit
- Repeated Trapping

ANNEX D: STRONGROOM

In addition to the general clauses, the following shall be looked at, when testing strongrooms:

D.1 INTRODUCTION

This annex is for products of the following standards:

- EN 1143-1

D.2 SELECTION OF THE TEST SPECIMENS

The technical documentation shall show:

- The minimum planned sizes of the room.
- Minimum distance of the door to the corner of the room
- Horizontal and vertical cross sections including the minimal sizes of the prefabricated panel as well the different shapes of the panels e.g.



- Details of joints and connections e.g. welding or screwing

Critical sizes could be:

- Prefabricated panel with the width of the dimensions of the test block
- Prefabricated panel with a straight but joint connection
- The most critical number of welding or screwing parts.
- The most critical dimensions and number of cable, ventilation or other tubes.

Sometimes it makes sense to check a corner of the strongroom.

Aim is not to have more test specimens as needed to assess the complete range of products.

D.3 TEST PLAN

Example of test strategy (not exhaustive)

Attack	Test method / tools / remarks	Change or deviation from the test strategy, including the reasons.
Complete access through the wall		
Complete access through the wall in a corner		
Complete access through the wall in the connection area of the connections corner		
Complete access cutting of the connection points		
Complete access remove the last installed panel		

The test program shall always be created individually and can be updated during the test.

D.4 PERFORMING THE FINAL TEST PROGRAM

Test can be done at (not exhaustive):

- Complete access through the wall with different tools and different strategy's
- Wedge on the last installed panel
- Attack the connection points
- Attacking of the conduits if they don't fulfill the requirements of ECB•S R03
- Attacking of the ventilation elements if they don't fulfill the requirements of ECB•S R03
- Attacking of the pre-existing openings elements if they don't fulfill the requirements of ECB•S R03
- Attacking of transportation holes (If applicable)
- Attacking of expansion joints, water barrier, load-bearing columns or support scaffoldings if they don't fulfill the requirements of ECB S R03

ANNEX E: STRONGROOM DOORS

In addition to the general clauses, the following shall be looked at, when testing free standing safes:

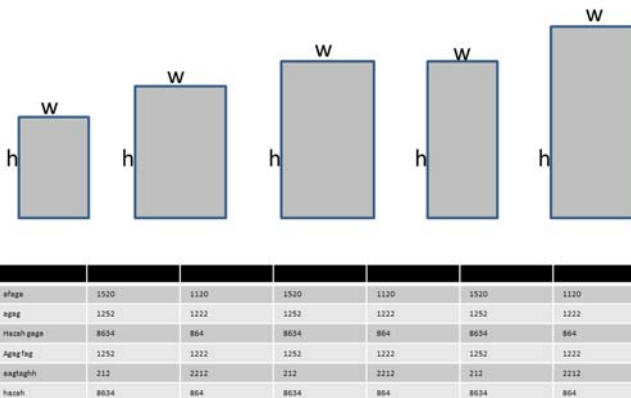
E.1 INTRODUCTION

This annex is for products of the following standards:

- EN 1143-1

E.2 SELECTION OF THE TEST SPECIMENS

The technical documentation shall show the planned sizes of the series as well as an overview about the positions and numbers of the bolts. As well the construction of the door frame. Furthermore, the technical documentation shall include a statement whether the door can be installed in a distance between the outer edge of the strongroom and the rough door opening of < then 500 mm.



Critical sizes could be:

- The smallest, the highest, the size with the weakest bolt/height/width ratio, etc.
- The most critical number and positions of the bolts shall be assessed.
- Doors with the most critical door frame (e.g. unfilled)
- Furthermore, the most critical lock of the product specific lock list shall be tested (this can be e.g. a swing bolt lock or a mechanical combination lock).

Note: For some locks the construction must be changed, as they may not be allowed behind a hole or they have different mounting sizes.

Aim is not to have more test specimens as needed to assess the complete range of products.

E.3 TEST PLAN

Example of test strategy (not exhaustive)

Attack	Test method / tools / remarks	Change or deviation from the test strategy, including the reasons.
Complete access through the door		
Complete access through the door in a corner		
Complete access opening the door		

The test program shall always be created individually and can be updated during the test.

E.4 PERFORMING THE FINAL TEST PROGRAM

Test can be done at (not exhaustive):

- Complete access through the door with different tool and different strategy's
- Complete access - Open the door by driving in the bolts (Distance less than 500 mm between the outer edge of the strongroom and the rough door opening).
- Complete access – Open the door by cutting the bolts / bolt engagement.
- Complete access – Open the door by driving in the bolt bars.
- Complete access – Open the door by cutting in the bolt bars.
- Complete access – Open the door by cutting in the blocking points.
- Complete access – Wedge on the door.
- Complete access – Remove the door.
- Complete access – Open the door by driving in the lock.
- Complete access – Open the door by removing the bolt mechanism.
- Complete access – Attack the door from the through a smaller hole in the side wall (Distance less than 500 mm between the outer edge of the strongroom and the rough door opening).
- Complete access – Attack the door from the backside through a smaller hole in the back wall (minimal dimensions or the room less than the relevant tools).

ANNEX F: SECURE SAFE CABINET

In addition to the general clauses, the following shall be looked at, when testing free standing safes:

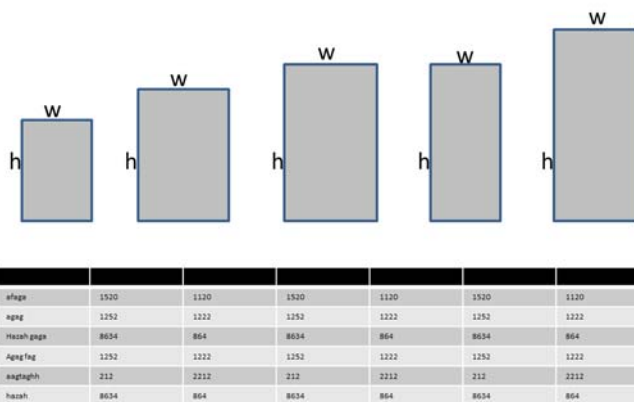
F.1 INTRODUCTION

This annex is for products of the following standards:

- EN 14450

F.2 SELECTION OF THE TEST SPECIMENS

The technical documentation shall show the planned sizes of the series as well as an overview about the positions and numbers of the bolts.



Critical sizes could be:

- The smallest, the highest, the size with the weakest bolt/height/width ratio, etc.
- The most critical number and positions of the bolts shall be assessed.
- Furthermore, the most critical lock of the product specific lock list shall be tested (this can be e.g. a swing bolt lock or a mechanical combination lock)

Note: For some locks the construction must be changed, as they may not be allowed behind a hole or they have different mounting sizes.

Aim is not to have more test specimens as needed to assess the complete range of products.

F.3 TEST PLAN

Example of test strategy (not exhaustive)

Attack	Test method / tools / remarks	Change or deviation from the test strategy, including the reasons.
Anchoring test		
penetration access to the interior		
access through the door or lid		
built-in safe, removal from the encasement		

The test program shall always be created individually and can be updated during the test.

F.4 PERFORMING THE FINAL TEST PROGRAM

Test can be done at (not exhaustive):

- Anchoring test
- Penetration access to the interior through the wall with different tool combinations
- Partial access through the door with different tool combinations
- Access through the door – Open the door by driving in the bolts.
- Access through the door – Open the door by cutting the bolts.
- Access through the door – Open the door by driving in the bolt bars.
- Access through the door – Open the door by cutting in the bolt bars.
- Access through the door – Open the door by cutting in the blocking points.
- Access through the door – Wedge / lever on the door
- Complete access – Remove the door.
- Complete access – Open the door by driving in the lock.
- Complete access – Open the door by removing the bolt mechanism.
- Complete access – built-in safe, removal from the encasement.

ANNEX G: PROCEDURE

