

Australian/New Zealand Standard®

Safes and strongrooms—Methods of test

Method 1: Test for physical attack

1 SCOPE This Standard sets out the physical attack methods to forcibly gain partial or complete access to the interior of a secure storage unit.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard.

AS/NZS

3809 Safes and strongrooms

SAA

HB18 Guidelines for third-party certification and accreditation

HB18.25 Guide 25—General requirements for the competence of calibration and testing laboratories

3 PRINCIPLE The test serves to establish the resistance values (RU) for complete access and partial access for secure storage units.

A testing team examines a test specimen together with the technical documentation and devises a program of attacking the test specimen. The testing team attacks the test specimen. The time taken to gain partial or complete access, assessed by inserting a test block, is recorded and used to calculate a resistance value.

The tools and program of attack used during testing should be those most likely, in the opinion of the testing team, to result in the lowest resistance values. Exploratory tests may be made. When testing for physical attack the test authority shall, to the best of their ability, use the most appropriate tools to gain access to the secure storage unit in the shortest possible time within the resistance values allocated.

NOTES:

- 1 The requirements for the technical documentation can be found in AS/NZS 3809.
- 2 Access to test specimens, technical documentation and observation of the testing should be restricted to people authorized by the testing house. Such authorized people should not reveal information to non-authorized people.
- 3 Observers of the testing can comprise nominees of the applicant and nominees of the certification body (e.g. surveyors and representatives of the testing house management). The number of observers can be limited by the testing house and authorization of observers should be agreed between the testing house and the applicant prior to starting testing.
- 4 Appendix A gives examples of determining resistance values whilst Appendix B gives examples of determining time from resistance values.

4 TESTING TEAM The testing team shall comprise:

- (a) A testing team leader, who is responsible for the conduct of the test and whose function is to plan, direct and supervise the testing.
- (b) A time keeper whose function is confined to timekeeping and the compiling of the event record.

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- (c) Testing operatives whose function is to carry out the necessary physical attacks on the test specimen as directed by the testing team leader.

NOTE: The test is to be carried out according to the current state of the art. In order to ensure consistent test results, testing houses should follow SAA HB18.25 and participate regularly in audits, co-operative tests, experience-sharing events and other suitable training measures.

CAUTION: BECAUSE SOME OF THE TESTS SPECIFIED IN THIS STANDARD INVOLVE THE USE OF PROCESSES IMPOSING RISK ON THE PERSONS CONCERNED, USE ONLY TRAINED STAFF AND ENSURE ADEQUATE SUPERVISION.

5 ATTACK TOOLS

5.1 General For the purpose of this test the tools listed in Tables 1 to 5 shall be used in conjunction with the non-tools listed in Table 6 when determining the protection class of a secure storage unit. Alterations to tools shall not be made; for instance, it is not permitted to enlarge nozzles, lengthen electrodes, rods or levers and the like.

Tool safety devices such as guards, fuses and other current limiting features or maximum speed controls, shall not be removed or altered.

To protect the operator(s), in the case of combined use of a hand impact tool and a chisel, a specially constructed chisel holder may be used. Such a chisel holder shall be regarded as a hand gripping tool.

5.2 Classification and explanation of tools and tool kits Tools and accessories shall be given a tool coefficient, basic value and category (A, B, C, D or S) according to Tables 1 to 6.

Tool category B (Table 2) includes tools of category A (Table 3).

Tool category C (Table 3) includes tools of categories A and B (Tables 3 and 4).

Tool category D (Table 4) includes tools of categories A, B and C (Table 3, 4 and 5).

Tool category S (Table 5) includes tools of categories A, B, C and D (Tables 3, 4, 5 and 6).

Safes shall only be tested with tools of categories A, B, C and D. Strongrooms and strongroom doors can be tested with tools of categories A, B, C, D and S.

5.3 Safety Measures necessary to ensure the safety of the operator(s) shall be taken. Tool safety devices such as guards, fuses and other current limiting features or maximum speed controls, or both, shall not be removed or altered.

5.4 Use of tools Tools shall be used for the purpose for which they are designed. If a tool replaces another type of tool, the coefficient of the replaced or simulated tool (if higher) is applicable. For example, if a screwdriver is used as a punch then it shall not be regarded as a hand (dis)assembling tool, but as a tool accessory with a basic value of one resistance unit (RU).

6 CLOCK Clock with an accuracy of at least 0.05 min. in each 10 min. measuring period, and the scaling shall be at least 0.01 min.

Clocks shall be visible to all observers and the beginning and end of each operating time shall be indicated by an acoustic or optical signal.

7 TEST BLOCKS

7.1 General The test blocks shall be made of a rigid material.

7.2 Test blocks to measure partial access (see Figure 1) Three test blocks each with a length of 150 mm, and the following cross-sections:

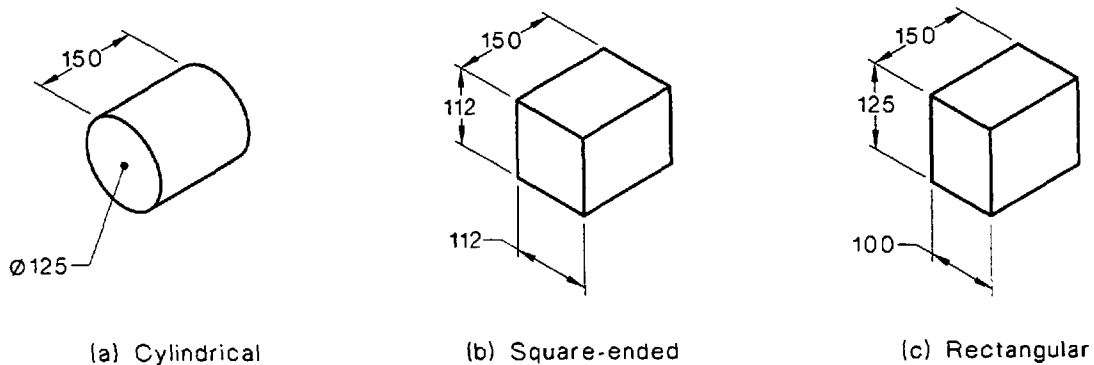
- (a) A circle with 125 mm diameter.
- (b) A square with 112 mm side length; edges and corners rounded with $r = 5$ mm.
- (c) A rectangle with 100 mm $\times$ 125 mm side length; edges and corners rounded with $r = 5$ mm.

For all dimensions the tolerance shall be $-0 + 2$ mm.

7.3 Test blocks to measure complete access (see Figure 2) Three test blocks each with a length of 400 mm, and the following cross-sections:

- (a) A circle with 350 mm diameter.
- (b) A square with 315 mm side length; corners rounded with $r = 10$ mm.
- (c) A rectangle with 300 mm $\times$ 330 mm side length; edges and corners rounded with $r = 10$ mm.

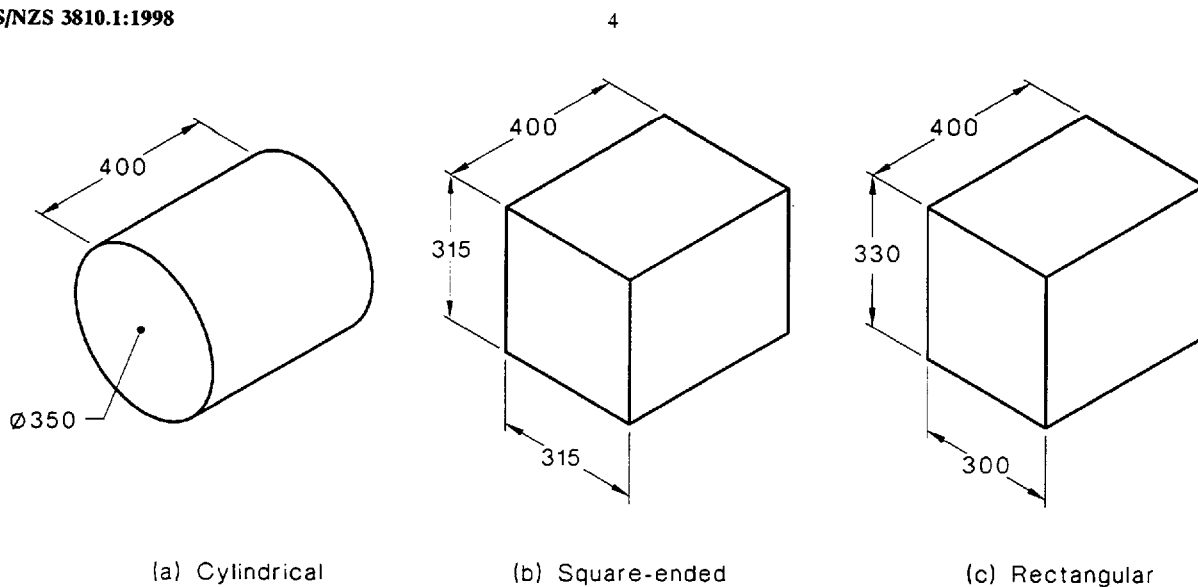
For all dimensions the tolerance shall be $-0 + 3$ mm.



DIMENSIONS IN MILLIMETRES

FIGURE 1 PARTIAL ACCESS TEST BLOCKS

AS/NZS 3810.1:1998



DIMENSIONS IN MILLIMETRES

FIGURE 2 COMPLETE ACCESS TEST BLOCKS

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TABLE 1
CATEGORY A TOOL KIT

Tool coefficient 5 RU/min					
Note reference	Tool type	Use	Specification	Examples	Basic value, RU
M	Hand (dis)assembling tools	These tools are used for non-destructive assembling and disassembling of detachable elements, e.g. to detach screws, pins or bolts, spring clips.	Mass ≤1.5 kg and length ≤400 mm	Screwdrivers, fork/ring wrenches	0
M	Hand gripping tools	These tools are used for the gripping (lever transmission) of tools and materials, e.g. fixing/holding of chisel.	Mass ≤1.5 kg and length ≤400 mm	Universal pliers, wrenches, chisel holder, forge tongs	0
M	Hand levering tools	These tools transmit physical force by a lever, e.g. prise-up a door, deform or fracture weak pieces.	length ≤750 mm	Screwdrivers, crow bars, tyre levers, hand levers	5
M	Hand sawing, filing, cutting and drilling tools	These tools are used for manual grinding, cutting and detaching of various materials without additional electric means of propulsion, e.g. sawing steel sheets.	Mass ≤1.5 kg and length ≤400 mm	Files, hacksaws, hand drills, plate shears, steel cutters, side cutters, bolt croppers, saws	0
M	Hand hammering tools	These tools are used to break up various materials and to propel different accessories such as chisels, drift punches and wedges.	Head mass ≤1.5 kg and moment ≤10 Nm and length ≤750 mm	Hammers, hand axes, pick axes	5
E C	Electric powered tools, without impact	These tools are used to drill or cut (without impacting option) and their working energy is supplied by a source of electricity.	Mass ≤3 kg and power consumption ≤500 W	Drilling machines	7
	Miscellaneous tools	This group includes tools, special procedures and devices which cannot be subsumed in the defined tools but still are to be taken into account. Their use is timed.		Hooks Lines Wires	1
				Commercial fishing devices	5
	Tool accessories	These include drills, saw blades, abrasive discs, nozzles, electrodes. These are consumable or replaceable items used together with tool types listed above. Their use is represented by a basic value.		Wedges, chisels, HSS drills, saw blades, punches	1

NOTES:

- M These tools are to be used manually only without external power supply.
- E These tools are used with external supply terminals but do not necessarily depend upon external sources of power, e.g. 'cordless' tools.
- C These tools may be used with cutting or cooling fluids.

TABLE 2
CATEGORY B TOOL KIT

Tool coefficient 7.5 RU/min					
Note reference	Tool type	Use	Specification	Examples	Basic value, RU
M	Hand (dis)assembling tools	These tools are used for non-destructive assembling and disassembling of detachable elements, e.g. to detach screws, pins or bolts, spring clips.	Mass >1.5 ≤3 kg and length >400 mm ≤750 mm	Screwdrivers, fork/ring wrenches	5
M	Hand gripping tools	These tools are used for gripping (lever transmission) of tools and materials, e.g. fixing/holding of chisels.	Length >400 mm ≤1500 mm	Universal pliers, wrenches, chisel holders, forge tongs	7
M	Hand levering tools	These tools transmit physical force by a lever, e.g. prise-up a door, deform or fracture weak pieces.	Length >750 mm ≤1500 mm	Screwdrivers, crow bars, tyre levers, hand levers	7
M	Hand hammering tools	These tools are used to break up various materials and to propel different accessories such as chisels, drift punches and wedges.	Head mass >1.5 kg ≤3 kg and moment >10 Nm ≤25 Nm and length >750 mm ≤1000 mm	Hammers, hand axes, pick axes	7
S C	Electric powered tools, without impact	These tools are used to drill or cut (without impacting option) and their working energy is supplied by a source of electricity.	Power consumption >500 W ≤800 W	Drilling machines	11
S C	Electric powered rotary tools with impact option	These tools are electric drilling machines which can be used with or without impacting option.	Power consumption ≤800 W and single blow energy ≤6 J	Hammer drills, jack hammers, concrete breakers	11
S	Electric power impacting machine tools, without rotation	These tools are used for hammering, breaking up or deforming.	Power consumption ≤800 W and single blow energy ≤6 J	Building hammers	11
S C	Electric power grinding/slitting machine tools	These tools are used for cutting or abrasion	Power consumption ≤800 W	Angle grinders, electric disc cutters, diamond core drills	14
	Thermal cutting, melting tools	These thermal tools receive the necessary energy either by an exothermic chemical reaction (heating/cutting gas, solid material/cutting gas) or by arc cutting.	Oxygen consumption ≤50 L/min (at standard ambient temperature and pressure, purity >99.0%)	Gas cutting and welding, oxygen lances, electric cutting and welding	14
	Tool accessories	These tools include drills, saw blades, abrasive discs, nozzles, electrodes. These are consumable or replaceable, used together with tool types listed above. Their use is represented by a basic value.		HSS/carbide tipped drill	2
				Disc Ø≤125 mm thickness ≥2.5 mm	4
				Nozzle	4
				Saw blade	2
				Chisel/bit	3

NOTES:

M These tools are to be used manually only.

S These tools are to be used with external supply terminals and without external power supply.

C These tools may be used with cutting or cooling fluids.