BUILDING HARDWARE :

CEN / TC33 / WG4 / TG4 / Ad Hoc Goup
Manipulation/Manual Attack

CEN/TC 33 /WG 4 /TG 4 / Ad Hoc Group

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MINUTES OF CEN TC33 WG4 TG 4 Ad Hoc Group meeting
Manipulation / Manual Attack
27th + 28th February 2019 in Velbert

Bump Key

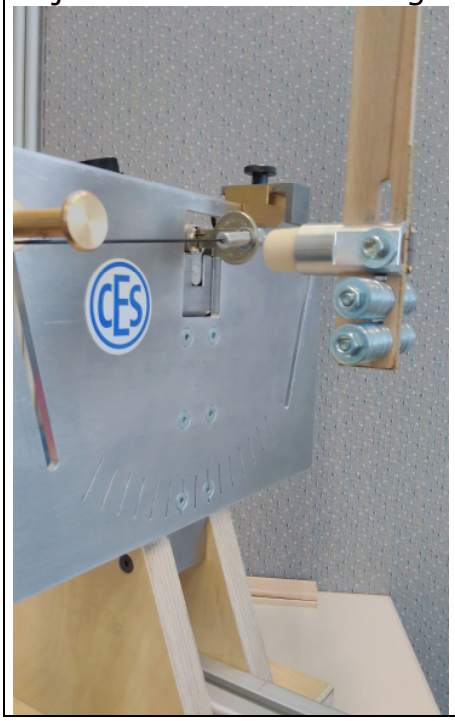
There was an improved fixture based on the Czech paper "METHODOLOGY OF LOCK CYLINDER TESTINGBY THE „BUMPING" NON-DESTRUCTIVE METHOD". A striking mechanism was added to have more repeatability.

It was possible to open not only simple import cylinders but also a 100% EN 1303/ DIN 18252/ SKG ** cylinder. It took 2 to 5 bumps to open.

The striking mechanism has to be further improved to gain more speed and stability. Different bump keys will be designed. CES R&D will take care of this.

The test rig will be introduced to testlabs to discuss a possible use. Jürgen Lienau will arrange a date with PIV Velbert and Arjen Koole with SKG . Trezortest, CZ, will be informed by a video.

A possible test procedure should be determined by the number of strikes + a maximum test time. Sufficient preparation time has to be granted as the adjustment of the test rig has to be done properly.



Czech paper

This is a rather scientific approach that takes a week to test according to Trezortest. For a possible European test this will be way too much but a lot of information can be drawn from this.

Different shapes of bump keys are described as well as different procedures of bumping with torque on key and plug or just on the key before striking.

It provides plans with dimensions for the test fixture but no striking mechanism.

Conclusions CZ:

An average opening time could be calculated as a requirement.

Tests could be performed before and/or after durability test.

Test should be clockwise and counter clockwise.

Test with defined torque and/or manual torque to be discussed.

JL: Ask Trezortest if this is a standard or a guideline.

NEN 5089 Netherlands

In the Netherlands there is a very interesting approach to add some basic manipulation resistance by evaluation of certain elements, see Table 7, NEN-5089. The cylinder opened by the bump key machine was 100% SKG** despite drill protection. So there is room for improvement.

NEN -5089 (Summary) - Burglary resistant hardware - Classification , requirements and test methods

Table 7 ? Points for anti-manipulation provisions

Value per provision supplied	Counting	Points
Pins with anti-manipulation shape	per pin	5
Crossing centre line key profile	–	10
Each additional crossing		5
Pins with rotation or sliding positions	per pin	5
Additional row of active pins (variation per pin 3 or 4)	per pin	3
Additional row of active pins (variation per pin more than 4)	per pin	5
Number of movable detainers more than 5 (in case of one row)	per extra detainer	5
If manipulation is plausibly impossible (e.g in case of unreachable detainers)	–	30
REMARK The final score is the sum of the individual provisions.		

Arjen Koole has sent a new draft of NEN 5089

MP03 Netherlands Locks for Trailers

Manual picking is part of the test, modification of tool is allowed. (There is also a dust test, just for information.)

NEN 15496 Bicycle Locks
SKG performs manual picking tests according this standard. There is an excel sheet to handle the results and calculate the test results according to the formula in the standard. A fail is not the end of the test, it depends on the results of the other cylinders. Simple, available hand tools are used for manipulation.
A2P France
CNPP tests impressioning with wax and solder on reversible keys, but his takes a lot of preparation time and the correct blank. This is so special that it probably won't make it into a European standard.
Picking is quite standard. A fail is not the end of the test. An average time has to be achieved. Picking tools can be made by tester.
Manual attack has a really massive tool set, above EN 1627, probably too much for our purpose.
UK
Picking is tested by MLA, manuals picks, bump key, no pick gun, no electro picking. The test is not public, 3 locksmiths will test.
The snapping test (TS007) is performed with a limited tool set.A video should be available so that every test is documented.
Sweden SSF 1090
Manual picking, pickgun, bump key. Picks may be modified.
Germany
Picking is only done by VdS, they keep the right to change tools and methods. The public guide line is not the full truth, there are also not public papers. The level is probably too high for our project.

Future work
Information about manipulation needs to be clustered.
Electro Picking
Due to bump key tests no time left for this.
Next meeting
21st May 2019 in Velbert, Manual picking will be a main topic.
Jürgen Lienau, 11.03.2019