

TEST REPORT

IP-classification of Key and Cylinder
std IEC 60529:2001 (Ed 2.1)

Applicant, identification of the test sample

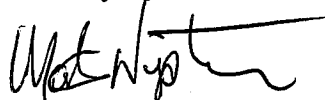
Applicant	ASSA AB P.O. Box 371 SE-631 05 Eskilstuna SWEDEN
Manufacturer	ASSA AB
Product	Electronic cylinder and key
Model type	Click 3.0

Testing laboratory	Intertek Semko AB P.O. Box 1103, SE-164 22 Kista, Sweden
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Test item	Electronic cylinder and key
	5 cylinders for IPX5, 2 mounted in door-dummies and 3 stand-alone
Numbered:	ATL-00133-01 – 02 Dummy mounted
	ATL-00133-03 – 05 Stand-alone
	10 Keys for IPX6
Numbered:	ATL-00133-N01 – N05 (5 samples)
	ZZ0801 – 05 (5 samples)

Kista, June 2, 2006

Tested by


Mats Nyström

Reviewed by


Razmik Mansourian



Intertek Semko AB

Torshamnsgatan 43, Box 1103, SE-164 22 Kista, Sweden
Telephone +46 8 750 00 00, Fax +46 8 750 60 30, www.sweden.intertek-etlsemko.com
Registered in Sweden: No SE556024059901, Registered office: As address

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Tests

IP-classification according to std. EN 60 529

Protection class, Electronic cylinder	IPX5
Protection class, Key	IPX6
Additional test for 2 cylinders and 3 keys	IPX7

Description of test

Electronic cylinder, IPX5

IEC 60529, sub-clause 14.2.5.

Five cylinders were tested for category IPX5.

The cylinders were subjected to water spraying during 3 min. with nozzle diam 6.3 mm, water flow 12.5 l/min from 2.5 m distance.

Cylinders marked ATL-00133-01 – 02 where mounted in dummies.

Cylinders marked ATL-00133-03 – 05 where tested stand-alone.

Key, IP X6

IEC 60529, sub-clause 14.2.6.

Ten keys where tested for category IPX6.

The cylinders were subjected to water spraying during 3 min. with nozzle diam 12.5 mm, water flow 100 l/min from 2.5 m distance.

Keys marked ATL-00133-N01 – 05 (5 samples).

Keys marked ZZ0801 – 05 (5 samples).

Cylinder + Key, IPX7

IEC 60529, sub-clause 14.2.7.

Two cylinders and three keys where additional tested for category IPX7.

The samples where kept for 30 minutes 1 m below the water surface.

Cylinder ATL-00133-03 and -04.

Key ATL-00133-N01, -N02 and -N03.

Test results

Electronic cylinder

IP X5, water

Operational tests before water test: OK

Each cylinder was tested for three times.

The key+cylinder indicates function via audio and LED signal.

Results after test:

- Key ATL-00133-N01: Function at 1st test but not 2nd.
- Cylinder ATL-00133-01: Occasional function with all key. Full function after 10 sec. drying with compressed air.
- Cylinder ATL-00133-02: Occasional function with 2 of 3 ZZ-keys. Full function after 10 sec. drying with compressed air.
- Cylinder ATL-00133-03: Full function with all keys.
- Cylinder ATL-00133-04: No function with any key. Full function after 10 sec. drying with compressed air.
- Cylinder ATL-00133-05: No function with any key. Full function after 10 sec. drying with compressed air.

Electronic Key

IP X6, water

Operational tests before water test: OK

Each key was tested for three times.

The key+cylinder indicates function via audio and LED signal.

ATL-series indicate full function. Samples N03 – 05 indicates low battery power. OK

ZZ-series give no signals but works properly. OK

Results after water test:

- Key ATL-00133-N01: Function at 1st test but not 2nd.
- Key ATL-00133-N02: Works properly 3 times.
- Key ATL-00133-N03: Function at 1st test but not 2nd.
- Key ATL-00133-N04: Function at 1st test but not 2nd.
- Key ATL-00133-N05: Function at 1st test but not 2nd.

All keys in ATL-series work properly after 10-15 min.

- Key ZZ0801 – 05: No function at all.

Cylinder together with key

IP X7, water

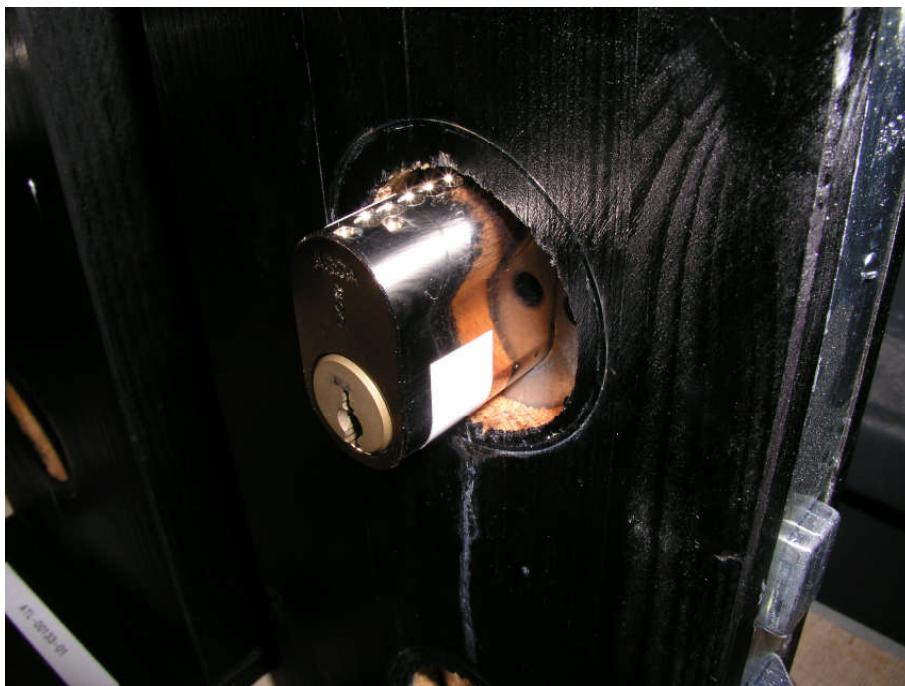
Operational tests before water test: OK

Result after test:

- Cylinder ATL-00133-03: No function. Full function after 10 sec. drying with compressed air.
- Cylinder ATL-00133-01: No function. Full function after 10 sec. drying with compressed air.
- Key ATL-00133-N01: Function at 1st test but not 2nd.
- Key ATL-00133-N02: Works properly 3 times.
- Key ATL-00133-N03: Works properly 3 times.



Electronic cylinders with keys



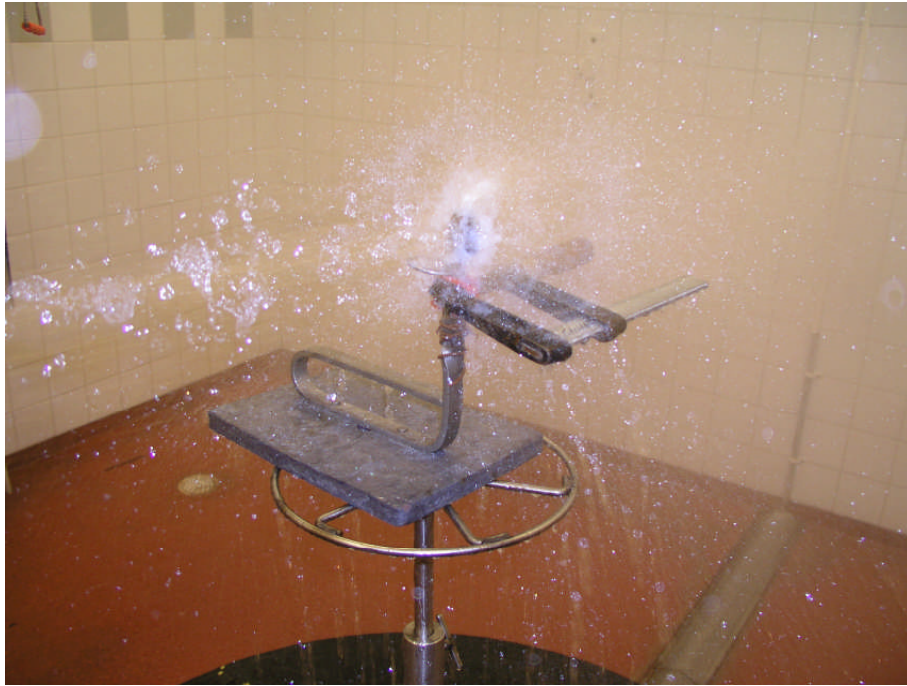
Electronic cylinder mounted in dummy



Electronic key



Electronic cylinder during spray test, IPX5



Key during spray test IPX6