

# TEST REPORT

Number:

C/08049712

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**SORT OF TESTS**

DEGREE OF PROTECTION (IP54)

**APPLICANT**

TALLERES DE ESCORIAZA S.A.U.(TESA)

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**SAMPLE IDENTIFICATION**

SDC Electronic lock

**DATE/S OF TEST**

From 7<sup>th</sup> to 10<sup>th</sup> March

**DATE OF RECEPTION**

6<sup>th</sup> March 2008

**OBSERVATIONS**

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**Authorized signatory/ies**

**Date of issue**

18<sup>th</sup> March 2008

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The results of the present report refer to the moment, conditions and samples in which the measurements were taken.***

## EQUIPMENT UNDER TEST DESCRIPTION

### Equipment under test description

Equipment under test use:	Electronic lock
Manufacturer:	TESA S.A.
Model:	SDC
Identification:	Sample 1
Code of sample:	C/080497/1



**The equipment under test. External view.**



**The equipment under test. Internal view.**

## GENERAL TEST CONDITIONS

### Test measurement uncertainty

The expanded uncertainty is obtained multiplying the combined standard uncertainty by a coverage factor  $k=2$ . The confidence level is approximately 95% for a standard normal distribution.

### Environmental test conditions

The test has been carried out under the following environmental conditions:

- Temperature:  $23 \pm 2$  °C ;
- Humidity:  $60 \pm 15$  % ;
- Atmospheric pressure: 860 mbar to 1060 mbar.

### Standards

UNE 20324:1993 (EN 60529:1991) "Grados de protección proporcionados por las envolventes (Código IP)".

UNE 20324:2000 1ª Modificación "Grados de protección proporcionados por las envolventes (Código IP)".

### Test equipment

Test equipment	Trademark	Model	Serial number
Chamber of talcum powder	Dycometal	CCK-45/1600	1254/00
Digital thermohigrometer	AHLBORN	6280-2K	1654
Equipment to measure atmospheric pressure	ALMEMO	2290-1	H 9608419 M
Talcum powder	-----	-----	-----
Controller equipment of watertight to the water	CCI	-----	2621
Watering-can	CCI	-----	-----
Rotatory table	CCI	-----	-----
Meter	CHAVES	AHS	-----

End of page

## TEST RESULTS

TEST in accordance with UNE 20324 (EN 60529) standard	Test results			
	N.A.	C	N.C.	N.R.
Degrees of protection provides by enclosures ( IP5X code )		C		
Degrees of protection provides by enclosures ( IPX4 code )		C		

**C** Compliance, **N.C.** Not compliance, **N.A.** Not applicable, **N.R.** Not tested

### Observations

End of page

## DEGREES OF PROTECTION PROVIDES BY ENCLOSURES ( IP5X CODE )

### Test method

In accordance with sections 13.4 and 13.5 of UNE 20324:1993 (EN 60529:1991).

### Test

- the equipment under test has been placed inside the chamber of talcum powder in a position of normal operation.
- during the test, the equipment under test is switched off.
- test duration: 8 hours with talcum powder in motion.
- talcum powder granulation < 75µm.



**The equipment under test, for IP5X test.**



**The equipment under test, after IP5X test.**

After the IP5X test, the degree of protection provided by enclosures against ingress of water test (IPX4 code) has been carried out.

**DEGREES OF PROTECTION PROVIDES BY ENCLOSURES ( IPX4 CODE )****Test method**

In accordance with sections 14.2.4 and 14.3 of UNE 20324:1993 (EN 60529:1991).

**Test**

- the equipment under test has been placed on a rotatory table, in a position of normal operation.
- during the test, the equipment under test is switched off.
- the equipment under test is placed under the watering-can.
- the equipment under test has been sprinkled with distilled water from a position of 180° in relation to the vertical.
- the pressure of distilled water during the test: 50 kPa to 150 kPa.
- volume of water: 10 l/min
- test duration: 5 minutes
- the distance between the equipment under test and watering-can: 300 mm.
- water temperature: 17 ° C.



**The equipment under test, during IP5X test.**

After the test, the equipment under test performance is checked.

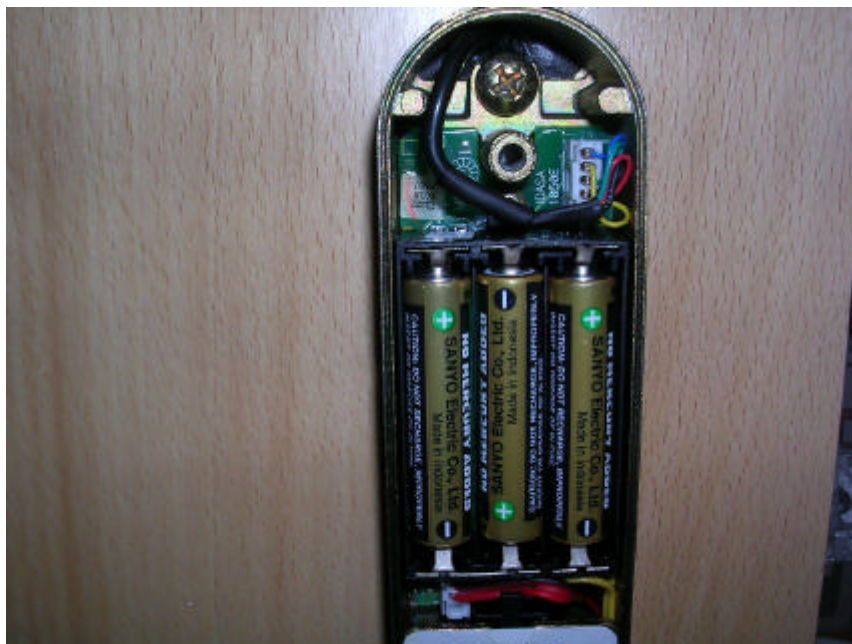
In addition, the equipment under test is disassembled to examine and verify that, after the test:

- at the bottom of the equipment, there is talcum powder and water inside this;
- at the top of the the equipment (batteries), there is not talcum powder and water inside this;
- at the top of the equipment (electronic), there is not water inside this;
- at the top of the equipment (electronic), there is talcum powder inside this, which not affect the equipment performance, and it is not possible to be reduced crepeances distances.

**EQUIPMENT UNDER TEST, AFTER TEST**



**The equipment under test, internal view.**



**Inside the equipment under test (at the top). There is not talcum powder and water.**



**Inside equipment under test (at the bottom), ingress of talcum powder.**



**Inside the equipment under test (at the bottom), ingress of water.**

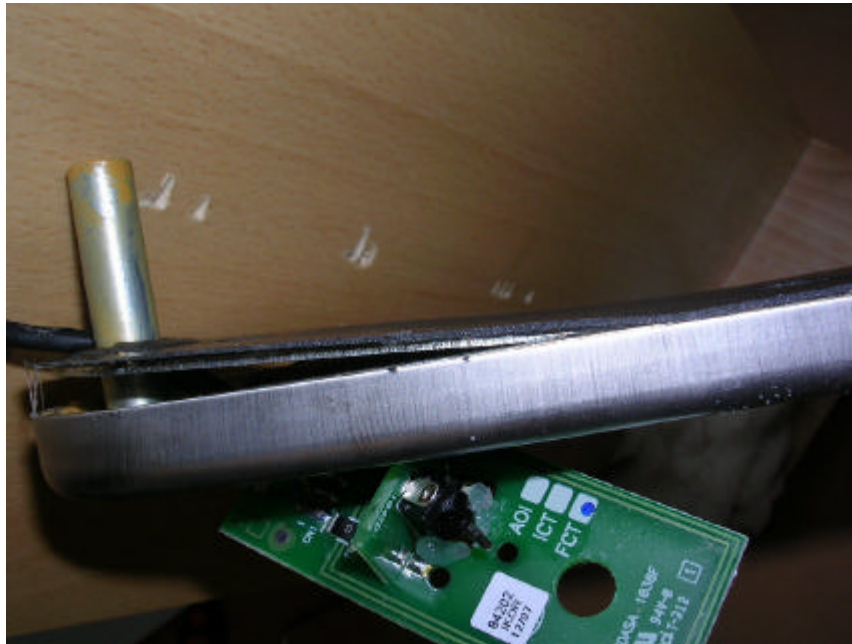




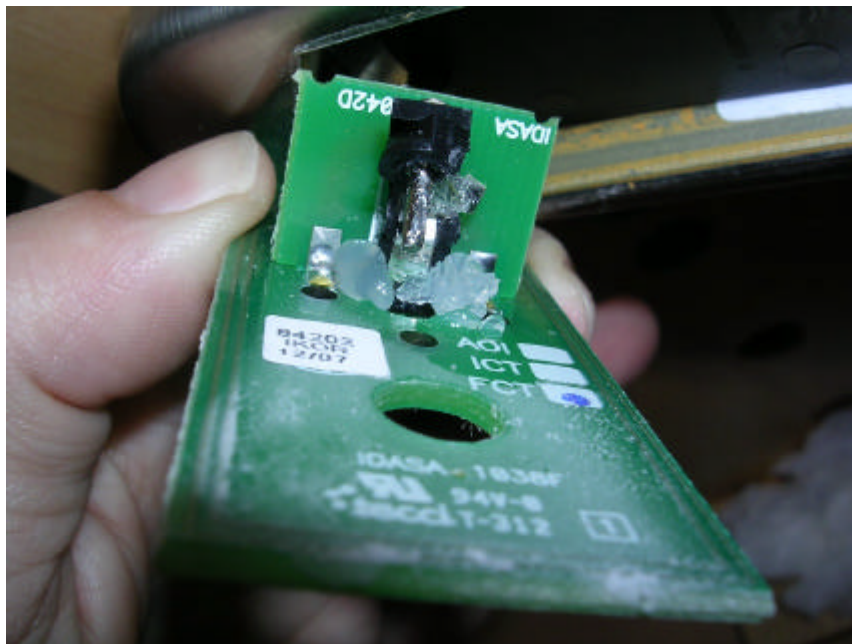
The equipment under test. External view.



Inside the equipment under test (at the top), ingress of talcum powder.



Inside the equipment under test (at the top).



Inside the equipment under test (at the top), ingress of talcum powder.

The top of the equipment under test, has a degree of protection against penetration of dust and ingress of water IP54, in previously described test conditions.

*End of report*