



Date:

18-02-2003

TO GLED GOOD GILLD TVO

Test report:

23005753 English translation from the original in spanish

Costumer's reference:

OPENERS AND CLOSERS, S.L.

C/ Cortit, 10 08027 Barcelona

In its representation Mr Roger Andreu.

Date of reception of test samples:

10-2002

Date of performance of test (start): Date of performance of test (end): 21-10-2002 22-10-2002

Date of performance of test (er

MATERIAL RECEIVED

The costumer has provided four samples of electromechanic mechanism of the leak-tight series for lockers, of the trademark OPENERS AND CLOSERS.

SOLICITED SUBJECT

Tests for determination the Degree of Protection, First and Second characteristic figure.

APPLIED SPECIFICATIONS

UNE 20-324-93 (EN 60529:1991+Erratum:1993):

"Degrees of protection provided by enclousures (IP code)"

ENVIRONMENTAL CONDITIONS

Environmental temperature: 23 °C±2 °C.

Relative humidity:

50 % ± 10 %.

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RESULTS

Degree of protection provided by enclosures (IP code) First and Second characteristic figure.

FIRST CHARACTERISTIC FIGURE

Tested one of the sample to the degree of protection against the solid bodies and dust test, it has obtained the next IP degree in the part of the item where is situated the electromechanics mechanism of locker's aperture:

Test conditions:

- Standard:

UNE 20-324-93 (EN 60529-1).

Figure 5 test:
Test duration:

Dust chamber without underpressure.

8 hours.

IP-5X

Observations:

The test is carried on with the item in repose.

The same sample is submitted to the degree of protection against the solid bodies and dust test, in the part of the sample wher are placed the supply terminals, and it has obtained the next IP degree:

Test conditions:

- Standard:

UNE 20-324-93 (EN 60529-1).

- Figure 4 test:

rod test @=1,0 mm.

- Test Method:

The rod test is applied against any aperture of the enclosure

with a force of $1N \pm 10$ %.

IP-4X

Observations:

The test is carried on without placing the cables in the terminals.



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SECOND CHARACTERISTIC FIGURE

Tested one of the sample to the degree of protection against the liquid penetration test, it has obtained the next IP degree:

Test conditions:

Standard:

UNE 20-324-93 (EN 60529-1),

- Figure 4 test:

Sprinkler head. Irrigation to 180° in relation to the plumb. Fixed

flow 600l/h.

- Test method:

Sample situated in normal position. Test duration: 5 min.

IP - X4

CONCLUSION

The electromechanic mechanism of the leak-tight series for lockers, of the trademark OPENERS AND CLOSERS, described in the clause "Material Received", complies according to the standard UNE 20-324-93 (equivalent to EN 60529:1991+Erratum:1993) with the protection degree:

Electromechanic mechanism zone	IP - 54
Supply terminals zone	IP - 44

Albert Marginet Morales Manager of the Center of Electricity José Luis Medina Abellan The Technician Responsible

The results reported in this document relate only to the sample, product or item submitted to the Laboratory and described above, having been tested under the conditions stablished in this document. In case of discrepancies between the English and Spanish versions, the Spanish version prevalish over the English one.