

TEST REPORT

CUSTOMER: **ENEA-EREDU S.COOP**

PERSON REQUESTING THE TEST: **IÑAKI ELIZEGI**

ADDRESS: **APARTADO 97
20250 LEGORRETA (GIPUZKOA)**

MATERIAL TESTED:	«BIO» SERIES BENCH
PURPOSE OF THE REQUEST:	TESTS IN ACCORDANCE WITH 11012: 1989 and UNE 11013:1989

DATE OF RECEIPT: **03.03.2008**
TEST STARTING DATE: **05.05.2008**
TEST COMPLETION DATE: **29.05.2008**
DATE REPORT ISSUED: **08.07.2008**

The results included in this report only refer to the material received and subjected to testing in this Research Centre on the dates indicated.

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FEATURES OF THE SAMPLE

On the 3rd of March 2008, CIDEMCO received a three-seat bench with armrests and a side table from the BIO series from the company ENEA EREDU S.COOP.



TESTS REQUESTED

The tests requested are as follows:

1. **Backward overturn for articles with back**, in accordance with section 2.4.2 of UNE 11013:1989
2. **Lateral overturn for articles with armrests**, in accordance with section 2.4.3 of UNE 11013:1989
3. **Static load on seat and back**, in accordance with section 2.5.2 of UNE 11012:1989
4. **Lateral static load on armrests**, in accordance with section 2.5.3 of UNE 11012:1989
5. **Static load on armrests subjected to a downward vertical force**, in accordance with section 2.5.4 of UNE 11012:1989
6. **Fatigue on seat and back**, in accordance with section 2.5.6 of UNE 11012:1989
7. **Static load on front feet**, in accordance with section 2.5.7 of UNE 11012:1989
8. **Lateral static load on feet**, in accordance with section 2.5.8 of UNE 11012
9. **Impact on seat**, in accordance with section 2.5.10 of UNE 11012:1989
10. **Impact on back**, in accordance with section 2.5.11 of UNE 11012:1989

The tests have been requested at **level 5** of structural resistance and stability. Level 5 corresponds to severe public use, understood as being as follows:

- **Normal public use:** furniture destined for installation in places of non-restricted public access and mainly without any type of control. Frequency of use will be very high and by many different people. It is to be expected that, owing to its location, use will be especially careless or even very sudden.

TESTS CARRIED OUT AND RESULTS

1. BACKWARD OVERTURN FOR ARTICLES WITH BACK (UNE 11013:1989, sec. 2.4.2)

Stops are placed against the back feet of the bench and a vertical force of 600 N is applied to the seat. A horizontal force of 80 N is applied at the same time to the back, perpendicular to it and 300 mm above the unloaded seat.

The bench should not overturn.

RESULT: SATISFACTORY

2. LATERAL OVERTURN FOR ARTICLES WITH ARMRESTS (UNE 11013:1989, sec. 2.4.3)

Stops are placed against the feet on one side of the bench. A vertical force of 250 N is applied at a point located 100 mm to one side of the central longitudinal line of the seat on the corner, and between 175 and 250 mm in front of the back part of it. A vertical force of 350 N is then applied at a point located 37.5 mm from the outermost side of the arm and in the most unfavourable position, and a horizontal force of 20 N applied in an outwards direction.

The bench should not overturn.

RESULT: SATISFACTORY

3. STATIC LOAD ON SEAT AND BACK (UNE 11012:1989, sec. 2.5.1. and sec. 2.5.2.)

Stops are positioned behind the feet of the bench to prevent it from slipping.

One seat is loaded with a counterweight force of 2000 N, applied at a load point. A horizontal force of 760 N is applied 10 times on the load point of the back. The force to be applied on the remaining seats is 750 N.

There should be no warping following the test.

RESULT: SATISFACTORY

4. LATERAL STATIC LOAD ON ARMRESTS (UNE 11012:1989, sec. 2.5.3)

Two opposing forces of 900 N are applied simultaneously on the armrests at their most unfavourable points, but not less than 100 mm from the ends.

The forces are applied 10 times.

There should be no warping following the test.

RESULT: SATISFACTORY

5. STATIC LOAD ON ARMRESTS SUBJECTED TO A DOWNWARD VERTICAL FORCE (UNE 11012:1989, sec. 2.5.4)

A vertical force of 1000 N is applied on the point of the armrests that is most susceptible to fault, but not less than 100 mm from the ends.

This force is applied 10 times.

There should be no warping following the test.

RESULT: SATISFACTORY

6. FATIGUE ON SEAT AND BACK (UNE 11012:1989, sec. 2.5.5 y 2.5.6)

Stops are positioned on the back feet to prevent the bench from slipping.

A horizontal force of 330 N is applied perpendicular to the back for 200,000 cycles. A force of 950 N is applied on each seat during each cycle.

The test is carried out on a seat at one end and on a middle seat.

There should be no warping following the test.

RESULT: SATISFACTORY

7. FRONT STATIC LOAD ON FEET (UNE 11012:1989, sec. 2.5.7)

Once the bench has been fastened by stops on its front feet to prevent it from slipping, a forward horizontal force of 760 N is applied on the centre of the back part of the seat, and another counterweight force of 1800 N on the seat at a determined load point. 10 cycles are completed.

There should be no warping following the test.

RESULT: SATISFACTORY

8. LATERAL STATIC LOAD ON FEET (UNE 11012:1989, sec. 2.5.8)

Once the bench has been fastened by stops on the feet on one side to prevent it from slipping, a vertical force of 1800 N is applied on the seat at a determined load point, and another counterweight force of 760 N on the opposite side of the seat to the stops at a point no more than 150 mm from the edge. 10 cycles are completed.

There should be no warping following the test.

RESULT: SATISFACTORY

9. IMPACT ON SEAT (UNE 11012:1989, sec. 2.5.10)

The test involved dropping the impactor on the seat, on which a piece of foam had been placed, from a height of 300 mm. 10 impacts were received in total on one end seat and one middle seat.

No warping was detected as a consequence of the test.

RESULT: SATISFACTORY

10. IMPACT ON BACK (UNE 11012:1989, sec. 2.5.11)

The centre of the upper end of the back is hit on the outside. The process is repeated 10 times from a drop height of 620 mm.

The test is carried out on a seat at one end and a middle seat.

There should be no warping following the test.

RESULT: SATISFACTORY