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Testing of free standing shelf system L-stand

(1 appendix)

Summary

Free standing shelf system L-stand meet the requirements for strength and security according to EN 14073-2:2004 and EN 14074:2004.

1 Introduction

On behalf of Hyllteknik AB, a Free standing shelf system L-stand has been tested at SP in accordance with EN 14073-2:2004 Office furniture – Storage furniture – Part 2: Safety requirements and EN 14074:2004 Office furniture – Tables and desks and storage furniture – Test methods for the determination of strength and durability of moving parts.

2 Test specimen



Figure 1 Free standing shelf system L-stand

| | |
|------------|--------------------|
| L-stand | (art. no. 15022) |
| Panel bar | (art. no. 19811) |
| Back panel | (art. no. 19801) |
| Shelf | (art. no. B631018) |
| Shelf end | (art. no. B5310) |

The L-stand was fitted with 6 shelf's according to standard.

It is possible to fit the L-stand with shelf's on the backside, as there are slots to fasten the shelf ends, this has not been tested.

The test specimen was selected by the customer and arrived at 2014-06-24.

SP Technical Research Institute of Sweden

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|--|---|---|---|
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3 Test methods and test procedure

Standards and methods which is the basis for the tests:

EN 14073-3:2004 Office furniture – Storage furniture Part 3: Test methods for the determination of stability and strength of the structure.

EN 14073-2:2004 Office furniture – Storage furniture Part 2: Safety requirements.

EN 14074:2004 Office furniture – Tables and desks and storage furniture – Test methods for the determination of strength and durability of moving parts.

ISO 7170:2005 Furniture – Storage units – Determination of strength and durability.

Tests were carried out in $23 \pm 2^\circ\text{C}$ and $50 \pm 5\%$ RH. The test methods are explained in table 1-3.

The test was carried out 2014-06-25 – 2014-06-27.

4 Results

Table 1

| 1. | General requirements | EN 14073 | Req. fulfilled |
|-----|--|----------|----------------|
| 1.1 | Accessible edges and corners shall be free from burrs and rounded or chamfered. There shall be no open ended tubes. | 3.4 | Passed |
| 1.2 | All moveable parts accessible during normal use shall have safety distances in any position during movement of ≤ 8 mm or ≥ 25 mm. This applies to any two elements moving relatively to each other, with the exception of doors, flaps and extension elements. The safety distance also apply to the distance between handles and other parts. | 3.4 | N/A |
| 1.3 | Adjustable parts shall be such as to prevent inadvertent operation or release. | 3.4 | Passed |
| 1.4 | Vertically sliding roll fronts shall not close by themselves from any position higher than 200 mm measured from the closed position. | 3.4 | N/A |
| 1.5 | Extension elements shall have effective open stops. They shall resist being pulled out of the structure once by a horizontal force of 200 N applied to the handle of the loaded extension element. | 3.4 | N/A |

Table 2

| 2. | Test (structure) | EN 14073 | Cycles | Loading | Req. fulfilled |
|-----|----------------------------|----------|--------|------------|----------------|
| 2.1 | Strength of unit | 5.2 | 10 | 350 N | Passed |
| 2.2 | Pull out of shelves | 5.3.1 | | 20 N (max) | Passed |
| 2.3 | Strength of shelf supports | 5.3.2 | 10 | 2,5 kg | Passed |
| 2.4 | Strength of top surfaces | 5.4 | 10 | 1 000 N | N/A |
| 2.5 | Stability (unloaded) | 5.5.1 | | | Passed |

| 2. | Test (structure) | EN 14073 | Cycles | Loading | Req. fulfilled |
|------|--|---------------|--------|-------------------|----------------|
| 2.6 | Stability (loaded) | 5.5.2 | | | Passed |
| 2.7 | Dislodgment of screen and wall hanging cabinets and shelves | 5.6.2 | | 100 N | N/A |
| 2.8 | Strength of screen and wall attachment devices | 5.6.4 | | According table 1 | N/A |
| 2.9 | Floor standing unit attached to the building | 5.7 | | 200 N | N/A |
| 2.10 | Deflection of shelves. (1 h) Deflection as percentage of the distance between the shelf supports. | ISO 7170:2005 | | Level 3 | 0,25% |

5 Conclusion

At the end of the test, the tested piece did not exhibit any faults, fractures or other damage judged to affect its safety and functions when used in accordance with EN 14073-2:2004 and EN 14074:2004.

The test results apply solely to the specimen tested.

SP Technical Research Institute of Sweden Wood Technology

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Appendix

1. Pictures (1 pages)

Appendix 1**Pictures**

Figure 1 Free standing shelf system L-stand