Test Report

DANISH TECHNOLOGICAL INSTITUTE

Gregersensvej
DK-2630 Taastrup
Tel. +45 72 20 20 00
Fax +45 72 20 20 19

info@teknologisk.dk
www.teknologisk.dk

Report No.: 924537-17

Assignor:	Hay ApS Havnen 1 DK-8700 Horsens

Page 1 of 1
Jju/jha/hbs
Order no.: 924537
No. of appendices: 2

Item:

Model: Knit

Type:	Storage Unit				
Length:	510 mm	Width:	560 mm	Height:	1600 mm
Weight	7.7 kg				
Materials:	Painted metal				

Sampling: The test material was sampled by the client and received at the Danish Technological Institute 01-07-2020.

Method: **EN 16121:2013+A1:2017** Non-domestic storage furniture – Requirements for safety, strength, durability and stability – Test severity 1

EN 16122:2012 Domestic and non-domestic storage furniture – Test method for the determination of strength, durability and stability

Period: The testing was carried out from 01-07-2020 to 08-07-2020.

Result: Model Knit fulfils the requirements of EN 16121:2013+A1:2017 and EN 16122:2012.

Individual results appear from Appendix 1.

Storage: The test material will be destroyed after 1 month, unless otherwise agreed.

Terms: Accredited testing was carried out in compliance with international requirements (EN/ISO/IEC 17025:2005) and in compliance with Danish Technological Institute's (DTI) General Terms and Conditions regarding Commissioned Work accepted by Danish Technological Institute. The test results apply to the tested products only. This report may be quoted in extract only if the laboratory has granted its written consent.

Date/place: 08-07-2020, Danish Technological Institute, Wood and Biomaterials, Taastrup

Signature: Test responsible   Co-signatory

ilac-MRA

DANAK
TEST Reg.no. 2

Testing of Model: Knit

EN 16121:2013

5. Safety Requirements

The tests contained are only considered to affect the safety when:
- the height of the centre of gravity of the unit, or any part, is >650 mm above the floor and the total mass is >10 kg or
- when the potential energy of the unit or any part is >65 Nm and the height of the centre of gravity of the unit, or any part, is ≤650 mm

Table 4 – Safety Tests

Test no.	Test	Reference EN 16122:2012	Loading	Requirement	Result
5.7.1.1	Static load test for tops and bottoms	6.2.2	Force, N Cycles	750 10	N/A
5.7.1.2	Shelf retention test – horizontal outward	6.1.2	Force, N	50% of unloaded shelf weight	N/A
5.7.1.3	Shelf retention test – vertical downward	6.1.3	Force, N	100	N/A
5.7.1.4	Strength of shelf supports	6.1.5	Cycles Mass per unit area, kg/dm^2 Steel impact plate EN 16122:2012. Table 1	10 0.65 1	N/A
5.7.1.5	Vertical load on pivoted doors	7.1.2	Mass, kg 10 cycles	30	N/A
5.7.1.6	Horizontal load on pivoted doors [a]	7.1.3	Force, N 10 cycles	60	N/A
5.7.1.7	Strength of bottom-hinged flaps	7.3.1	Force, N Cycles	200 10	N/A
5.7.1.8	Strength of extension elements [b]	7.5.2	Force, N Cycles	200 10	N/A
5.7.1.9	Slam shut and open of extension elements	7.5.4	Velocity, m/s at calibration points Slam open 5 kg Slam shut 35 kg Factor K Mass in drawer	1.30 1.00 2.5	N/A
5.7.1.10	Interlock test	7.5.6	Force, N Cycles	200 10	N/A
5.7.1.11	Test for structure and underframes	6.4.1	Force, N Cycles	350 10	N/A
5.7.1.12	Test of unit with castors or wheels	6.4.3	Cycles	2.000	N/A
5.7.1.13	Overload test	10.1.3	Mass per unit area, kg/dm^3	2.5	N/A
5.7.1.14	Dislodgement test	10.1.4	Force, N	100	N/A
5.7.1.15	Units supported by the floor	10.2	Force, N	200	N/A
5.7.2	Structural safety requirements				
	a) There are no fractures of any member, joint or component				N/A
	b) Units attached to the structure of the building shall remain attached and carry the test load				N/A
	c) The storage unit fulfils the stability requirements (5.6)				N/A

Testing of Model: Knit

Test no.	Test	Reference EN 14072:2003	Loading	Requirement	Result
5.5	Vertical glass components	Clause 5	Clauses 4.4, 4.7	Drop height 70 mm	N/A

Testing of Model: Knit

5.6 Stability

The requirements for stability only apply to units, where the height to the top of the unit is 650 mm or more above the floor level, and when the potential energy, exceeds the value 65.

Where specified, the unit shall be loaded in accordance with the loads specified in Table 2. When the unit or component is conspicuously and durably marked by the manufacturer with a maximum load, the unit or component shall be loaded with the stated maximum load multiplied by 0.5, but the load shall not exceed the value calculated using Table 2.

Table 3 – Stability Tests

Test no.	Test	Reference EN 16122:2012	Loading	Require-ment	Result
5.6.1	Doors, extension elements and flaps closed, all storage units unloaded – units that are, or can be, adjusted to a height of 1000 mm or less	11.2.1	Vertical force, N	750	N/A
5.6.2	Doors, extension elements and flaps closed, all storage units unloaded – units that are, or can be, adjusted to a height of more than 1000 mm	11.2.2	Vertical force, N Outward force, N	350 50	N/A
5.6.3	All storage areas unloaded and all doors, extension elements and flaps open	11.4.1	-	-	N/A
5.6.4	All storage areas unloaded with overturning load	11.4.2	Vertical force, N	100	N/A
5.6.5	All storage areas loaded with overturning load	11.4.3	Vertical force, N	20% of total mass (3.5) of the unit but not greater than 300 N	N/A
5.6.6	Doors, extension elements and flaps closed and locked	11.5	Outward force, N	100	N/A
5.6.7	Dynamic stability test for units with castors	11.6	-	-	N/A

DANISH TECHNOLOGICAL INSTITUTE

Testing of Model: Knit

6. Strength and Durability

Table 5 – Strength and Durability Tests

Test no.	Test	Reference EN 16122:2012	Loading	Test severity		Result
				1	2	
6.1.1	Strength of clothes rail supports	6.3.1	Mass per unit length, kg/dm Time	4.0 1 h	4.0 1 h	N/A
6.1.2	Strength of coat hooks	9.1	Force per hook, N Cycles	40 10	150 10	Passed
6.1.3	Durability of pivoted doors	7.1.5	Cycles	40.000	80.000	N/A
6.1.4	Slam shut test of pivoted doors	7.1.4	Mass, m_2, kg Cycles	3 10	4 10	N/A
6.1.5	Slam shut/open of sliding doors and horizontal roll fronts	7.2.2	Mass, m_2, kg Cycles	4 10	6 10	N/A
6.1.6	Durability of sliding doors and horizontal roll fronts	7.2.3	Cycles – sliding doors Cycles – roll fronts	20.000 10.000	40.000 20.000	N/A
6.1.7	Durability of flaps	7.3.2	Cycles	10.000	20.000	N/A
6.1.8	Durability of vertical roll fronts	7.4.2	Cycles	10.000	20.000	N/A
6.1.9	Durability of extension elements	7.5.3	Cycles – extension elements Cycles – trays	40.000 20.000	80.000 40.000	N/A
6.1.10	Slam shut and open of extension elements	7.5.4	Velocity, m/s, at calibration points Slam open 5 kg Slam shut 35 kg Factor K	1.30 1.00 2.5	1.30 1.00 2.5	N/A
6.1.11	Displacement of extension element bottoms	7.5.5	Force, N Cycles	60 10	70 10	N/A
6.1.12	Strength test for locking and latching mechanisms for extension elements	7.6.2	Force, N Cycles	200 10	200 10	N/A
6.1.13	Strength test for locking and latching mechanisms for doors, flaps and roll fronts	7.6.3	Force, N Cycles	200 10	200 10	N/A
6.1.14	Drop test	6.4.2	Drop height, mm	-	50	N/A
6.1.15	Deflection of shelves	6.1.4	Mass per unit area, kg/dm^2	1.5	2.0	N/A
6.1.16	Dislodgement of clothes rails	6.3.2	Mass per unit length, kg/dm	5	5	N/A
6.1.17	Drop test for trays	8.3	Drop height, mm Cycles	350 10	700 10	N/A
6.1.18	Sustained load test for trays	8.2	Kg/dm^3	0.65	1.0	N/A
6.2	Strength and durability requirements					
	a) There are no fractures of any member, joint or component					Passed
	b) There are no loosening of joints intended to be rigid					Passed
	c) The storage unit fulfils the stability requirements (5.6)					N/A
	d) The storage unit fulfils its functions after removal of the test loads					Passed
	e) There shall be no deflection of shelves that exceeds 0.5% of the span of the shelf when tested in accordance with test no. 6.1.15 (see Table 5)					N/A

Testing of Model: Knit

Photo