
**Furniture — Storage units —
Determination of strength and durability**

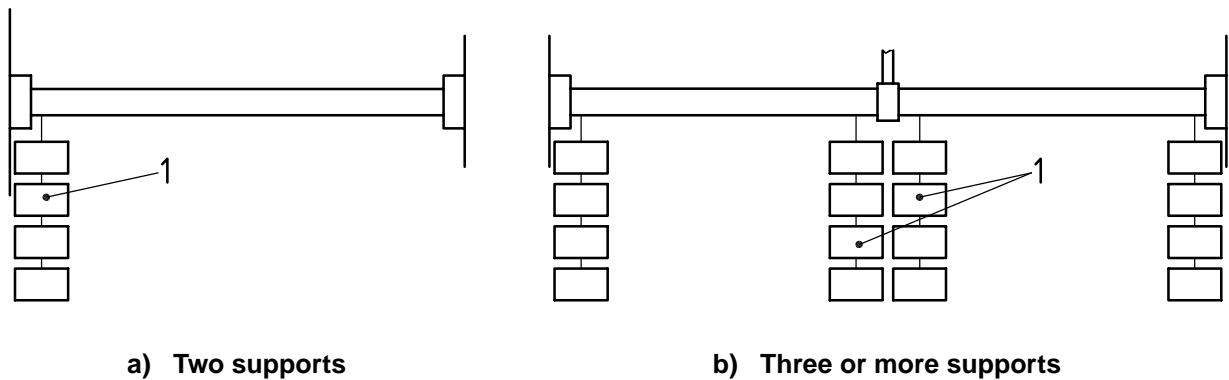
*Ameublement — Éléments de rangement — Détermination de la
résistance et de la durabilité*



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**Key**

1 load

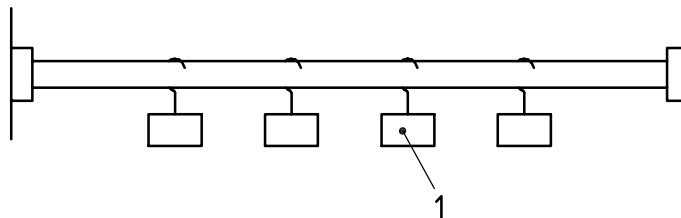
Figure 4 — Strength test of clothes-rail supports**6.3.2 Dislodgement of clothes rails**

Place the rail on its supports in the unit (see Figure 5).

Load the rail uniformly with the load specified and apply for:

- one hour for metal rails;
- one week for all other rails.

Carry out the inspection and assessment according to 4.8.

**Key**

1 load

Figure 5 — Dislodgement of clothes rails**6.4 Strength of the structure****6.4.1 Test for structure and underframe**

This test is not applicable to units attached to another structure.

Place stops around the legs or base (see Figures 6 and 7). Levelling devices shall be opened 10 mm from the fully-closed position.

Load all parts intended for storage purposes with the load specified in Table 1. Close extension elements, flaps, roll-fronts and doors.

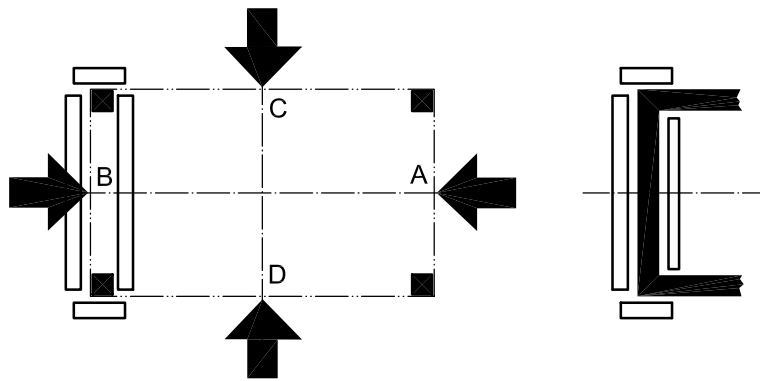


Figure 6 — Strength test of structure and underframe — Force application points (A, B, C, D) and directions

Dimensions in millimetres

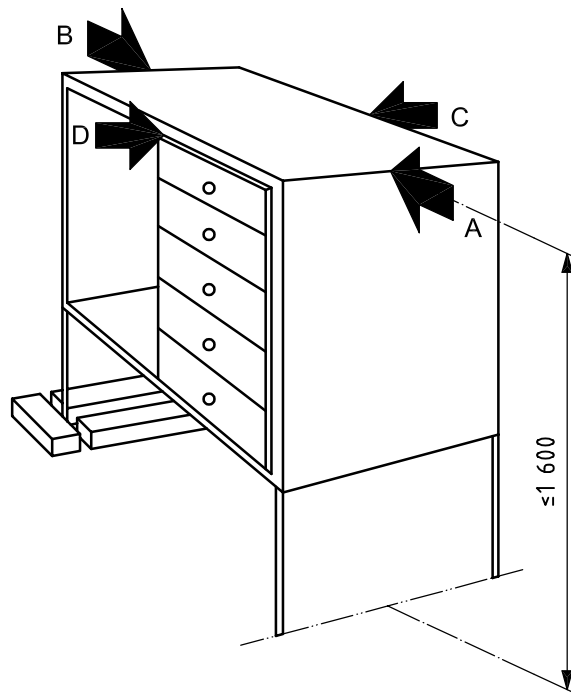


Figure 7 — Strength test of structure and underframe — Force application points (A, B, C, D)

Apply the static force specified **10 times** at point A in Figure 6, on the centre line of the side of the unit as high as possible but not higher than 1 600 mm from the floor (see Figure 7). If no structural member exists at this position, apply the load by means of a rigid bar.

Repeat this procedure **10 times** at points B, C and D, with the legs or base still restrained by stops.

If the unit tends to tilt, lower the force application point until tilting is just prevented. Record this height.

Carry out the inspection and assessment according to 4.8.

Table A.1 — Strength tests — Suggested loads, forces, etc

Clause/Test	Unit	Suggested loads and forces ^a			
		1	2	3	Increment for further steps
6.1.2 Shelf retention test	N	50 % of the weight of the unloaded shelf			Not recommended
6.1.3 Deflection of shelves ^b	kg/dm ²	1	1,5	2	+0,5
6.1.4 Strength of shelf supports (see Table A.4)	kg	1,1	1,7	2,5	Not recommended
6.2.1 Sustained load test for tops and bottoms ^b	kg/dm ²	1	1,5	2	+0,5
6.2.2 Static load test for tops and bottoms	N	600	750	1 000	250
6.3.1 Strength of clothes-rail supports	kg/dm	4	4	5	Not recommended
6.3.2 Dislodgement of clothes rails	kg/dm	4	4	5	Not recommended
6.4.1 Test for structure and underframe	N	200	300	450	150
6.4.2 Drop test	mm	—	50	100	50
7.1.2.1 Vertical load on pivoted doors	kg	10	20	30	10
7.1.2.2 Horizontal load on pivoted doors	N	50	60	70	10
7.1.3 Slam-shut test of pivoted doors	m_2 , kg	2	3	4	1
7.2.2 Slam shut/open test of sliding doors and horizontal roll-fronts	m_2 , kg	2	3	4	1
7.3.1 Strength of bottom-hinged flaps	N	150	200	250	50
7.3.3 Drop test for top-hinged flaps	Cycles	125	250	500	Multiply by 2
7.4.1 Slam shut/open of vertical roll-fronts (only for roll-fronts not falling under own weight)	m_2 , kg	2	3	4	1
7.5.2 Strength of extension elements	N	100	200	300	100
7.5.4 Slam shut/open test of extension elements (velocity of calibration extension element in m/s)	5 kg	1,1	1,3	1,4	0,1
	35 kg	0,8	1,0	1,1	0,1
	factor K	1,6	2,5	2,9	See B.3
7.5.5 Displacement of extension element bottoms	N	40	60	70	Not recommended
7.5.6 Interlock test	N	200	200	200	Not recommended
7.6.2 Strength test for locking and latching mechanisms for extension elements, and 7.6.3 Locking and latching mechanisms for doors, flaps and roll-fronts	N	200	200	200	Not recommended
8.1.3 Sustained load test (overload)	kg/dm ²	2	2,5	3	0,5
8.1.4 Dislodgement test	N	Not applicable	100	200	200
8.2 Units supported by the floor	N	200	200	200	Not recommended

^a The suggested loads, forces etc. shown in columns 1, 2 and 3 are considered to be suitable for storage furniture for most fields of application from domestic to contract use. The increments shown in the last column are suggested for storage furniture only for special applications, where higher loads and forces may be required.

^b The specifier should specify the maximum acceptable deflection. The deflection should be described as a percentage of the items' length.

Table A.2 — Durability tests - Suggested cycles

Clause/Test	Suggested cycles ^a			
	1	2	3	Increment for further steps
6.4.3 Tests for units with castors or wheels	500	1 000	2 000	All rows: Multiply previous column by 2
7.1.4 Durability of pivoted doors	20 000	40 000	80 000	
7.2.3 Durability of sliding doors and horizontal roll-fronts	10 000	20 000	40 000	
7.3.2 Durability of flaps	5 000	10 000	20 000	
7.4.2 Durability of vertical roll-fronts	5 000	10 000	20 000	
7.5.3 Durability of extension elements	20 000	40 000	80 000	
7.6.4 Durability test of locking and latching mechanisms	2 500	5 000	10 000	

^a The suggested cycles shown in columns 1, 2 and 3 are considered to be suitable for storage furniture for most fields of application from domestic to contract use. The increments shown in the last column are suggested for storage furniture for special applications, where a higher number of cycles may be required.

Table A.3 — Suggested loads in storage components for tests in Tables A.1 and A.2

Component	Unit	Suggested load			
		1	2	3	Increment for further steps
Door baskets	kg/dm ²	1	1,5	2	+0,5
Extension elements ^a	kg/dm ³	0,2	0,35	0,5	0,15
Suspended pocket files	kg/dm length	2,0	3,0	4,0	Not recommended

^a The volume of extension elements is calculated from the internal depth × internal width × internal clear height.

Table A.4 — Suggested impact plates^a for testing strength of shelf supports

Plate parameter	Unit	Suggested mass		
		Plate no. 1	Plate no. 2	Plate no. 3
Mass (excluding rubber)	kg	1,1	1,7	2,5
Approximate width	mm	70	109	160
Approximate thickness	mm	10	10	10
Length	mm	200	200	200

^a The impact plates shall be faced with a 3 mm thick layer of rubber with a hardness of (85 ± 10) IRHD according to ISO 7619-2:2004.