

Product	Alku S/S 200X80, rectangular	
Test requested by	Martela Oyj, Takkatie 1, 00370 Helsinki	
Test specimen	Table top	2000x800 mm
	Top material	22 mm particleboard
	Frame	Steel
	Column	Steel
	Leg	Steel



Test method Determination of dimensions, mechanical safety requirements, stability and mechanical strength of an office work desk.

Tests were carried out according to the standards below. Detailed test program with results is presented in pages 2-3.

EN 527-1:2011 Office furniture - Work tables and desks - Part 1: Dimensions

EN 527-2:2002 Office furniture - Worktables and desks - Part 2: Mechanical safety requirements

EN 527-3:2003 Office furniture - Worktables and desks - Part 3: Methods of test for determination of the stability and mechanical strength of the structure.

ISO 21016:2007 clauses 6.1, 6.5.3. Office furniture — Tables and desks — Test methods for the determination of stability, strength and durability

The test specimen was selected by Martela and arrived to Testing laboratory November 11, 2016. Tests were carried out at December 12 – December 27, 2016 in temperature 15°C - 25°C.

Assessment of results

Alku S/S 200X80 rectangular, meets the dimensional, safety, stability and mechanical strength requirements of an office work desk presented in the standards EN527-1:2011, EN527-2:2002 and EN527-3:2003 and partially presented tests of standard ISO21016:2007.

The test result is only valid to the specimen tested and no other.

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Martela Testing laboratory

Nummela, December 27, 2016

approved by:

Tero Karttunen
Quality and Test Manager

tested by:

Jarno Forsman
Laboratory Engineer

Ref. Lab report No.1390

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Table1. EN527-1:2011 Office furniture - Work tables and desks - Part 1: Dimensions

Dimensions			Work table/desk type	Measured dimensions	Results/notices N/A=not applicable
			Type A		
			Fully adjustable		
h1	Height of the work surface	Sit/stand	Minimum range 650 - 1250	640-1285	OK
t1 and t2	Maximum desk top thickness	At the front, t1	55 ^b	22	OK
		At 500mm from the front edge, t2	80 ^b	62	OK
k1	Minimum height of knee clearance for standing position only	Applies only to tables with a height more than 850 mm	700 ^d	-	N/A
k2	Minimum depth of knee clearance for standing position only		80	-	N/A
k3	Depth of foot clearance for standing position only		150	-	N/A
f1 and f2	Minimum height of minimum foot clearance	Sitting only and sit/stand From 600mm to 800mm from the front edge, f1	120	1223	OK
		Standing only From front edge to 150mm, f2	120	-	N/A
g1	Minimum legroom depth c	Sitting only and sit/stand	800	800	OK
D	Minimum desk top depth g		800	800	OK
W	Minimum legroom width	Sitting only and sit/stand	1200	1700	OK
Type of work table is A (fully adjustable sit/stand-table)					
<p>^a Maximum increment of 20 mm ^b Only applies to sitting and sit/stand work tables/desks ^c The construction of the product shall ensure the minimum legroom depth ^d Measured from the floor ^e The minimum and maximum values shall be obtained ^f 600 mm can in some situations be acceptable, e.g. when 17" or smaller flat screens are used, providing that the work surface is not against the wall and that two people are not sitting one in front of each other. Information about these limitations shall be provided with the product ^g The dimension D is measured as the smallest dimension at the work area</p>					

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Table 2. EN 527-2: 2002 Office furniture- Worktables and desks- Part 2: Mechanical safety requirements

	Requirement	Record	RESULT
(3) GENERAL DESIGN REQUIREMENTS	- all edges and corners are free from burrs and rounded or chamfered	Record weather the requirements are filled	OK
	- in order to avoid points of high pressure under the forearms, during prolonged contact with work tops, the edges and corners of the top surfaces are rounded with a radius of not less than 2 mm;		OK
	- movable and adjustable parts are designed to minimize the risk of injuries and inadvertent operation or release;		OK
	- the safety distance between accessible movable parts is either £ 8 mm or ³ 25 mm in any position during movement. This applies to any elements moving relative to each other, with the exception of doors (including hinges) and extension elements (including runners);		OK
	- the handles are designed so that they cannot trap fingers during intended use;		OK
	- the ends of feet and hollow components are closed or capped.		OK
(4) STRUCTURAL SAFETY REQUIREMENTS	The table shall be tested in the following sequence of tests of EN 527-3: - stability (optional); strength under horizontal force; strength under vertical force; fatigue under horizontal force; fatigue under vertical force; stability; drop test. These requirements are fulfilled when after the tests specified in 5.2 to 5.6 of EN 527-3:2002:	Record weather the requirements are filled	OK
	- there is no fracture of any member, joint or component;		OK
	- there is no loosening of joints intended to be rigid;		OK
	- no major structural element is significantly deformed;		OK
	- the table fulfils its functions after removal of test loads;		OK
	- adjusting screws fulfil their functions.		OK
	(4.3) STABILITY REQUIREMENTS		During the stability test specified in 5.1 of EN 527-3:2002: - the table does not overbalance or rest supported on the drawers and all feet return to the ground when the loads are removed.

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Table 3. Requirements in EN 527-3:2003 Office furniture - Worktables and desks – Part 3: Methods of test for determination of the stability and mechanical strength of the structure

	Cycles	Load, direction	Record	RESULTS
(5.1) STABILITY a) Stability, vertical loading	1	750 N, vertical	Record whether the table overturns	OK
b) Stability, drawers open				
(5.1 and 5.3) STRENGTH a) vertical load	10	1000N/10sec.	Record any defects	OK
b) horizontal force	10	450 N/ 10 sec. If tendency to overturn, incline the force downwards	Record any defects	OK
(5.4 and 5.5) DURABILITY, a) horizontal force	5000 +5000	300N horizontal forces, (reduced if the table tends to lift), + tabletop uniformly loaded with max. 100kg	Record any defects	OK
b) vertical force	10 000	400 N/ 2 sec	Record any defects	OK
(5.6) DROP TEST	5		Record any defects	OK
APPENDIX A (informative) Rigidity index		200 N (a, b, c and d)	Determine the index using the formula $k_l = 100 (d_A + d_B) / 3y$ $k_t = 100 (d_c + d_d) / 3y$, where $y=200$.	$k_l = 0,7$ $k_t = 0,3$ OK
DEFECTS AND OBSERVATIONS AFTER TEST PROCEDURE	None			

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Table 4: Requirements in ISO 21016:2007 Office furniture — Tables and desks — Test methods for the determination of stability, strength and durability

	Cycles	Load, direction	Application point	Pad	Record	RESULTS
(6.1) STABILITY						
a) Max height 950mm	1	750N, vertical	100mm from the edge at the point most likely to overturn the table	100mm	Record weather the table overturns	N/A
b) Max height more than 950mm	1	375N, vertical				OK
(6.5.3) STIFFNESS OF THE STRUCTURE						
a) longitudinal direction	1	300N / 2sec	Center of longitudinal centreline and both sides		Record D (sum D1 and D2)	4mm
b) transverse direction	1	300N / 2sec	Center of transverse centreline and both sides		Record D (sum D1 and D2)	2mm
(6.6) DURABILITY OF THE HEIGHT ADJUSTMENT MECHANISM	Work tables: 5000 Other tables 2500	Load the table top with 45 kg applied on the centre of a line 300 mm in from the rear edge of the surface and at the side to side locations noted below.	-First 25% of cycles: Position the centre of the load 300 mm in from the left edge of the surface. - Next 50 % of cycles: Position the centre of the load in the middle of the surface. - Last 25 % of cycles: Position the centre of the load 300 mm in from the right edge of the surface.		Record and assess defects in accordance with 4.9.	N/A

End of report.

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