NORWEGIAN ACCREDITATION TEST 275

Test Report

Test Report No.	**2024-06-26-004**	Page **1(11)** Rev. 00

Customer	Flokk AS Drammensveien 145 0277 Oslo, Norway		
Customer contact	Product & Brands v/ Christian Eide Lodgaard		
Test item	Profim Sorriso 10V		
Serial No.	5111051004-11 /0004388388		
Order No.	2024-06-26-004		
Date of receipt.	2024-10-04		
Testing commenced / finished	2024-10-07 / 2024-12-06		
Performing Laboratory.	Flokk AS, Sundveien 201 7374 Røros, Norway +47 72 40 72 00		
Accredited by.	Norsk Akkreditering Postboks 155 Bedriftssenter 2001 Lillestrøm +47 64 84 86 00	Accreditation No.: Accreditation valid from: Accreditation valid to:	Test 275 2013-04-18 2028-02-10
Tested according to.	NS-EN16139:2013 Level 1		
Test result.	**The test item did pass the test specification(s)**		

Tested by:			**Approved by:**		
12-Dec-24	Fredrik Olsson Quality Engineer	Signed by: B9EA0CDD29904FA...	10-Dec-24	Ida Røisi System Test Engineer	Signed by: A93CEAAF40B4402...
Date	**Name** **Position**	**Sign.**	**Date**	**Name** **Position**	**Sign.**

Additional information.
The test results refer only to the sample tested.
The temperature during testing has been within the specified range 15-25 degrees Celsius.

Decision rules employed by the laboratory, unless inherent in the requested specification or standard:
Dimensional measurements. A result is compliant when the measured value is within the requirement (i.e. less or equal to an upper limit, greater or equal to a lower limit), without taking into consideration the measurement uncertainty.
Stability, strength and durability. A result is compliant when the measured value including the expanded measurement uncertainty is within the requirement (i.e. less or equal to an upper limit, greater or equal to a lower limit).

Customer complaints: If you somehow are dissatisfied with the way Test 275 has performed the task, please register this in TQM as case type "Customer claim" under process level "Testlab". Alternatively send an e-mail to: Testlab.roros@flokk.com

Abbreviations		
	P	**=Passed**
	F	**=Failed**
	NA	**=Not applicable**
	NT	**=Not tested**

Estimated uncertainty of measurement		
Measurement	**Description**	**Uncertainty [mm]**
a	Seat height (EN 1335-1:2000)	<5
b	Seat depth (EN 1335-1:2000)	<10
d	Seat width (EN 1335-1:2000)	<5
r	Clear width between the useful area of the arm rests (EN 1335-1:2000)	<10

Estimated uncertainty of measurement		
Measurement	**Description**	**Uncertainty [N]**
7.3.3	Corner stability test (EN 1022:2018)	4
7.3.1	Forwards overturning / Forwards overturning rigid seating (EN 1022:2018)	5 / NT
7.3.4	Sideways overturning for chairs without armrests (EN 1022:2018)	8
7.3.5.2	Sideways overturning for chairs with armrests (EN 1022:2018)	6
7.3.5.3	Sideways overturning for seating with raised side edges (EN 1022:2018)	1
7.3.6	Rearwards overturning for chairs without back rest inclination and for chairs with backrest inclination that can be locked (EN 1022:2018)	10
7.4.2	Rearwards overturning for chairs with back rest inclination (EN 1022:2018)	7
All relevant	All load cells used during mechanical testing	<12
4.4	Rolling resistance of the unloaded chair	1

The given expanded uncertainty U, is the result of the multiplication of the standard uncertainty u, and coverage factor k=2, which for a normal distribution equals to a probability of ≈ 95%.

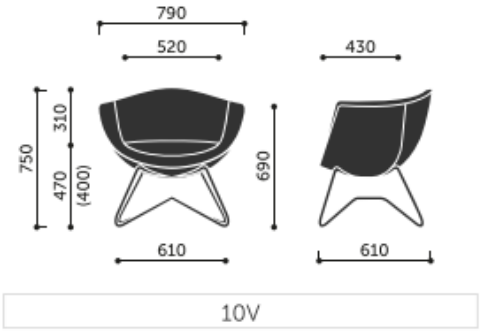
Brief description of the test item upon receipt.

Profim Sorriso 10V
Conference armchair with fully upholstered seat, back and armrests, four metal frame legs. Seat/back angle constant, locked seat movement.

Remarks: No remarks, chair in good conditions.

Data provided by customer:

Product dimensions



Profim Sorriso 10V

(Image source: profim.eu/products/sorriso-10v-armchair-for-retro-space, retrieved 2024-12-05)

Standard: **NS-EN 16139:2013**

Clause	Requirements / Remarks	Result
1. Scope This European Standard specifies requirements for the safety, strength and durability of all types of nondomestic seating intended to be used by adults with a weight of not more than 110 kg, including office visitor chairs. This European Standard does not apply to ranked seating, office work chairs, chairs for educational institutions, outdoor seating and to links for linked seating for which European Standards or drafts exist. It does also not apply to work chairs for industrial use. This European Standard does not include requirements for the durability of upholstery materials, castors, reclining and tilting mechanisms and seat height adjustment mechanisms. This European Standard does not include requirements for the resistance to ageing, degradation and flammability.		
Remarks		
3. Terms and definitions See test specification		
Remarks		
4 **4.1**	**Safety requirements** **General** The seating shall be so designed as to minimise the risk of injury to the user. All accessible parts (3.1) shall be so designed that physical injury and damage are avoided. This requirement is met when: a) accessible corners are rounded or chamfered; b) the edges of the seat, back rest and arm rests which are in contact with the user when sitting in the chair are rounded or chamfered; c) the edges of handles are rounded or chamfered in the direction of the force applied; d) all other edges are free from burrs and rounded or chamfered; e) the ends of hollow components are closed or capped. Movable and adjustable parts shall be designed so that injuries and inadvertent operation are avoided. It shall not be possible for any load bearing part of the seating to come loose unintentionally. All parts which are lubricated to assist sliding shall be designed to protect users from lubricant stains when in normal use. **Remarks**	**P**
4.2 **4.2.1**	**Shear and squeeze points** **Shear and squeeze points when setting up and folding** Unless 4.2.2 or 4.2.3 are applicable, shear and squeeze points that are created only during setting up and folding, including tipping seat actions, are acceptable, because the user can be assumed to be in control of his/her movements and to be able to cease applying the force immediately upon experiencing pain. The edges of parts moving relative to each other and creating shear and squeeze points shall be as specified in 4.1 . **Remarks**	**NA**

Clause	Requirements / Remarks	Result
4.2.2	**Shear and squeeze points under influence of powered mechanism** With the exception of tipping seats there shall be no shear and squeeze points created by parts of the seating operated by powered mechanisms, e.g. springs and gas lifts.	**NA**
	Remarks	
4.2.3	**Shear and squeeze points during use** There shall be no shear and squeeze points created by forces applied during normal use as well as during normal movements and actions, see Table 1.	**P**
	Remarks	
4.3 **4.3.1**	**Stability** **General** The seating shall not overturn under the following conditions: a) by pressing down on the front edge of the seat surface in the median plane (3.8); b) by applying a load on the seat surface via the front corner; c) by leaning sideways on a with or without arm rests; d) by leaning against the back rest; e) by sitting on the front edge of the seat; f) by loading the foot rest.	**P**
	Remarks Stability is tested according to EN1022:2018, see 4.3.3	
4.3.2	**Swivelling chairs** Requirements a) to e) are considered to be met if the seating complies with 4.3 of EN 1335-2. Requirement f) are considered to be met if the seating complies with EN 1022:2005, 6.3.	**NA**
	Remarks Clause 4.3 of EN 1335-2:2009 has been replaced by clause 4.4 of EN 1335:2-2018 which in turn refers to EN 1022:2018. Clause 6.3 of EN 1022:2005 has been replaced by clause 7.3.2 of EN 1022:2018.	
4.3.3	**Non swivelling chairs** The seating shall fulfil the relevant requirements of EN 1022	**P**
	Remarks 7.3.1 Forward overturning: Pass (requirement 20N, measured 180N) 7.3.5.2 Sideways overturning for chair with armrests: Pass (requirement 20N, measured 106N) 7.3.6 Rearwards overturning for chairs without back rest inclination and for chairs with adjustable backrest inclination that can be locked: Pass (requirement 178,5N, measured 244N)	
4.4	**Rolling resistance of the unloaded chair** This sub clause is only applicable to single seating units fitted with castors or wheels. The unloaded seating shall not roll unintentionally. This requirement is met when: - the rolling resistance is ≥ 12 N when tested in accordance with EN 1335-3:2009, 7.4; and - all castors are of the same type.	**NA**
	Remarks	
4.5	**Safety of the construction** The following tests described in Clause 6, Table 1 are considered to be relevant to safety: Test No.: 1, 2, 4, 6, 7, 8, 9, 10, 12, 13, 14. Seating is considered to satisfy the safety requirements if, on completion of the relevant tests, the chair satisfies all requirements of Clause 5.	**P**
	Remarks	

Clause	Requirements / Remarks	Result
5	**Safety, strength and durability requirements** The chair shall be constructed to ensure that it does not create a risk of injury to the user of the chair under the following conditions: - sitting on the seat, both centrally and off-center; - moving forward, backwards, and sideways while sitting in the chair; - leaning over the arm rests; - pressing down on the arm rests while getting up from the chair. These safety, strength and durability requirements are fulfilled when during and after testing in accordance with Table 1 : a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads. The stability requirements are fulfilled when after testing in accordance with Table 1 the seating does not overturn.	**P**
	Remarks	
6	**Test methods** Seating shall be tested on the same sample for safety, strength and durability according to Table **1** and following the order listed in Table 1. The guidance for selecting level L 1 or L2 with due respect for the end use of the product is given in Annex B.	**INFO**
	Remarks Chairs tested according to level 1	

Table 1 - Strength and durability tests

Test and sequence	Reference	Loading[a]	Level		Result
			L1	L2	Level1
1.Seat and back static load test	EN 1728:2012, 6.4	Seat: Force, N Back: Force, N 10 times	1600 560(min force 410)	2000 700(min. force,410)	P[1]
2.Seat front edge static load test	EN 1728:2012, 6.5	Force, N 10 times	1300	1600	P
3.Vertical static load on back[b]	EN 1728:2012, 6.6	Force, N Seat load, N 10 times	600 1300	900 1800	P
4.Foot rest and leg rest static load test	EN 1728:2012, 6.8, 6.9	Force, N 10 times	1300	1600	NA
5.Arm sideways static load test	EN 1728:2012, 6.10	Force, N 10 times	400	900	P
6.Arm downwards static load test	EN 1728:2012, 6.11	Force, N 5 times	750	900	P
7.Vertical upwards static load on arm rests	EN 1728:2012, 6.13.1, 6.13.2	Seat load, N Lift 10 times, during ≥10 s	250 or lift stack with max. 8 chairs of max 25kg	1200	NA
8.Seat and back durability test	EN 1728:2012, 6.17	Cycles Seat: 1000N Back[c]: 300N	100 000	200 000	P
9.Seat front edge durability test	EN 1728:2012, 6.18	Cycles Force: 800N	50 000	100 000	P
10. Arm durability test	EN 1728:2012, 6.20	Cycles Force: 400N	30 000	60 000	P
11. Foot rest durability test	EN 1728:2012, 6.21	Cycles Force: 1000N	50 000	100 000	NA
12. Leg forward static load test	EN 1728:2012, 6.15	Force, N Seat load, N 10 times	500 1000	620 1800	P
13. Leg sideways static load test	EN 1728:2012, 6.16	Force, N Seat load, N 10 times	400 1000	760 1800	P
14.Seat impact test	EN 1728:2012, 6.24	Drop height, mm 10 times	240	300	P
15.Back impact test	EN 1728:2012, 6.25	Height of fall, mm/° 10 times	210/38	330/48	P
16. Arm impact test	EN 1728:2012, 6.26	Height of fall, mm/° 10 times	210/38	330/48	P
17. Drop test (multiple seating)	EN 1728:2012, 6.27.1	Drop height, mm 2x5 times	N/A	450	NA
18.Auxiliary writing surface static load test	EN 1728:2012, 6.14	Force, N 10 times	300	300	NA
19. Auxiliary writing surface durability test	EN 1728:2012, 6.22	Cycles Force: 150N	10 000	20 000	NA

[a] Seat load on parts not undergoing test: 750N
[b] The test is only applicable for chairs without head/neck rest and for chairs with a height of the backrest <1000mm above ground
[c] No minimum force defined
1) Back angle 70,4°

Clause	Requirements / Remarks	Result
7	**Information for use** Information for use shall be available in the language of the country in which it will be delivered to the end user. It shall contain at least the following details: a) information regarding the intended use (see Annex B); b) if the chair is fitted with adjusting mechanisms: instruction for operating the adjusting mechanisms; c) assembly instructions, where applicable; d) instruction for the care and maintenance of the chair; e) if the seating is fitted with castors: information on the choice of castors in relation to the floor surface; f) if the seating is fitted with adjustment mechanisms comprising an energy accumulator, an additional note is required pointing out that only instructed personnel may replace and maintain adjustment mechanisms containing energy accumulators.	P
	Remarks	

Table A.1 – Additional tests

Test and sequence	Reference	Loading	Level		Result
			L1	L2	Level1
1. Drop test for stacking seating	EN 1728:2012, 6.27.2	Drop height, mm 10 times	150	200	NA
2.Backward fall test	EN 1728:2012, 6.28	Cycles	5	5	NA
3.Drop test from the height of a table	EN 1728:2012, 6.27.3	Drop height, mm 10 times (5 times on one front leg and 5 times on one rear leg)	600	600	NA

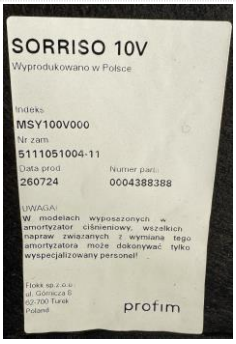
Annex B

Level	Type of use	Range of application
L1	General use	Areas in which seating is usually intended for mixed use (short-time and for a period of several hours, light to heavy load). Examples of end-use: all kind of applications in office buildings, showrooms, public halls, function rooms, cafes, restaurants. canteens. banks, bars.
L2	Extreme use	Areas in which seating is occasionally or repeatedly subject to extremely high loads due to their specific types of use or due to improper use. Examples of end-use: night-clubs, police stations, transport terminals, sport changing rooms, prisons, barracks (non-controlled areas).

Annex c
(Informative)
Dimensional requirements for office visitor chairs

Clause	Requirements / Remarks	Result
C.1	**General** The dimensions in this standard are based on the conflicting requirements of anthropometric measurements, mechanical design, subjective preference and other factors.	INFO
	Remark Used CMD (chair measuring device) to achieve desired measurements	
C.2.1	**Seat height (a)** Fixed seat height: between 400 mm and 500 mm. Adjustable seat height: minimum range from 420 mm to 480 mm.	P
	Remark Fixed seat hight Measured value: 427 mm	
C.2.2	**Seat depth (b)** Seat depth: between 380 mm and 470 mm.	P
	Remark Measured value: 457 mm	
C.2.3	**Seat width (d)** Seat width: minimum 400 mm.	P
	Remark Measured value: 486 mm	
C.2.4	**Distance between arm rests (r)** Distance between arm rests: minimum 460 mm.	P
	Remark Measured value: 506 mm	

Annex I – Photo documentation



Chair reception
Info label

Chair reception
Front

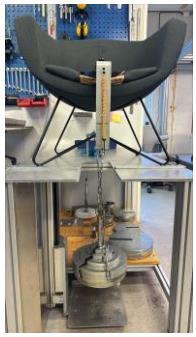
Chair reception
Right side

Chair reception
Left side

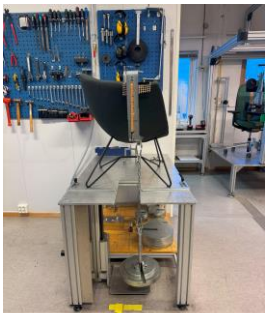
Chair reception
Rear

Chair reception
Under side

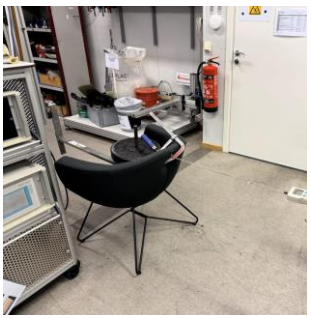
6.3 Back angle



EN1022:2018
7.3.2 Forward overturning



EN1022:2018
7.3.5.2 Sideways overturning

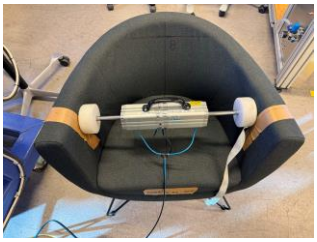


EN1022:2018
7.3.6 Rearwards overturning

EN1728:2012
6.4 Seat and back static load

EN1728:2012
6.5 Seat front edge static load

EN1728:2012
6.6 Vertical static load on



EN1728:2012
6.10 Arm sideways static load

EN1728:2012
6.11 Arm downwards static load

EN1728:2012
6.17 Seat and back durability

EN1728:2012
6.18 Seat front edge durability

EN1728:2012
6.20 Arm durability

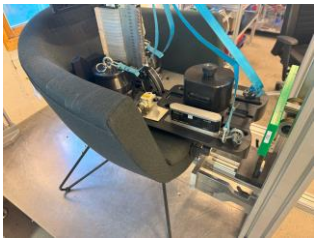
EN1728:2012
6.15 Leg forward static load

EN1728:2012
6.16 Leg sideways static load

EN1728:2012
6.24 Seat impact

EN1728:2012
6.25 Back impact

EN1728:2012
6.26 Arm impact



Seat depth (b)

Sitting height (a)

Minimum clearance
armrest in widest (r)