



Genito A/S Scandinavian Turnkey Design
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Test Report

Material: Model: Mars

Type:	Chair	
Materials:	Seat:	Nylon with 30% fiberglass, cold foam, upholstery
	Back:	Polypropylene, upholstery, cold foam
	Frame:	Nylon with 30% fiberglass
	Weight:	3,45 kg

Sampling: The test material was sampled by the client and received at the Danish Technological Institute 27-01-2015.

Method: **EN 1729-1:2008** Furniture – Chairs and tables for educational institutions – Part 1: Functional dimensions. Measured according to table A.1.
EN 1729-2:2012 Furniture – Chairs and tables for educational institutions – Part 2: Safety requirements and test methods. Loading according to EN 1729-2:2012 highest level.
EN 1022:2005 Domestic furniture - Seating - Determination of stability.
EN 16139:2013 16139:2013 Furniture - Strength, durability and safety - Requirements for non-domestic seating. Clauses 4.1, 4.2.3, 4.3.2, 4.4, 5, 6.1.1, 6.1.2, 6.1.3, 6.1.8, 6.1.9, 6.1.12, 6.1.13, 6.1.14, 6.1.15.

L1: General use: E.g. in office buildings, showrooms, public halls, function rooms, cafés, restaurants, canteens, banks, bars.

Period: The testing was carried out from 26-01-2015 to 02-03-2015.

Result: Model Mars fulfils the requirements in EN 1729-1:2008, Table A.1 and the requirements in EN 1729-2:2012, clauses 4 – 5, EN 1022:2005 and EN 16139:2013.
Loading according to Test severity L1.
Individual results appear from Appendices 1, 2 and 3.

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

Terms: The test has been performed according to the attached conditions, which are according to the guidelines laid down by DANAK (The Danish Accreditation). The testing is only valid for the tested specimen. The test report may only be extracted, if the laboratory has approved the extract

02-03-2015, Danish Technological Institute, Wood Technology, Taastrup
Revised 11-03-2015. This report replaces all previous for this sample



Lars Hansen
Test responsible



Per A. Nielsen
Co-reader

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Test of model: Mars

EN 1729-1:2008 – Table A.1

Size code	0	1	2	3	4	5	6	7
Colour code	White	Orange	Violet	Yellow	Red	Green	Blue	Brown
1. Length of the lower leg (without shoes)	200-250	250-280	280-315	315-355	355-405	405-435	435-485	485+
2. Person height (without shoes)	800-950	930-1160	1080-1210	1190-1420	1330-1590	1460-1765	1590-1880	1740-2070
3. H ₈ -Seat height ± 10	210	260	310	350	380	430	460	510
Measured					418		463	513
4. T ₄ -Effective seat depth ± 10 mm (0-2) ± 20 mm (3-7)	225	250	270	300	340	380	420	460
Measured				310				
5. B ₃ -Min. seat width	210	240	280	320	340	360	380	400
Measured			310					
6. T ₇ -Seat depth (min.)	Actual t ₄ minus 20 mm	Actual t ₄ minus 20 mm	Actual t ₄ minus 20 mm	Actual t ₄ minus 30 mm	Actual t ₄ minus 30 mm	Actual t ₄ minus 30 mm	Actual t ₄ minus 30 mm	Actual t ₄ minus 30 mm
Measured				280				

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Test of model: Mars

Size code	0	1	2	3	4	5	6	7
Colour code	White	Orange	Violet	Yellow	Red	Green	Blue	Brown
7. H ₆ -Height of point S- -10 to +20	140	150	160	180	190	200	210	220
Measured					195			
8. H ₇ -Back height, min	100	100	100	100	100	100	100	100
Measured		103						
9. B ₄ -Min. back width	-	210	250	270	270	300	330	360
Measured				277				
10. R ₂ -The horizontal radius of the back	-	300	300	300	300	300	300	300
Measured		300						
11. β-The inclination of the back, degrees	-	95° to 110°	95° to 110°	95° to 110°	95° to 110°	95° to 110°	95° to 110°	95° to 110°
Measured	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Appendix 2

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Test of model: Mars

Loading according to EN 1729-2:2012

Testing	Test Method	Cycles	Loading	Result
5 Testing of chairs				
5.2.2 Forward stability	EN 1022:2005 6.2		Seat: 600 N Horizontal: 20 N	Passed
5.2.3 Sideways stability	EN 1022:2005 6.4		Seat: 600 N Horizontal: 20 N	Passed
5.2.4 Rearwards stability	EN 1022:2005 6.6		Seat: 600 N Back: 180 N	Passed
5.3.2 Seat and back static load	EN 1728:2000 6.2.1	10	Seat: 2000 N Back: Max 700 N	Passed
5.3.3 Seat and back durability	EN 1728:2000 6.7	100.000	Seat: 1250 N Back: 300 N	Passed
5.3.4 Seat front edge durability	EN 1728:2000 6.8	50.000	Vertical: 800 N	Passed
5.3.5 Sideways static load	EN 1728:2000 6.13	10	Vertical: 1600 N Horizontal: Max 600 N	Passed
5.3.6 Forward static load	EN 1728:2000 6.12	10	Vertical: 1600 N Horizontal: Max 600 N	Passed
5.3.7 Seat impact	EN 1728:2000 6.15	10	Drop height: 300 mm	Passed
5.3.8 Back impact	EN 1728:2000 6.16	10	Drop height: 620 mm	Passed
5.3.9 Static load of foot rail	EN 1728:2000 6.4	10	Vertical: 1000 N	N/A
5.3.10 Drop test	EN 1729-2:2012 Annex A	5	Drop height: 600 mm	Passed

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Test of model: Mars

Loading according to Test severity L1.

Test	Test Method	Cycles	Load	Result
4.1 General	EN 16139, 4.1			Passed
4.2.2 Shear and squeeze points under influence of powered mechanisms	EN 16139, 4.2.2			N/A
4.2.3 Shear and squeeze points during use	EN 16139, 4.2.3			Passed
4.3.2 Swivelling chairs	EN 1022			Passed
4.3.3 Non swivelling chairs	EN 1022			N/A
4.4 Rolling resistance of the unloaded chair	EN 16139, 4.4			Passed
5 Strength and durability requirements	EN 16139, 5			Passed
6.1.1 Seat static load and back static load test	EN 1728:2012, 6.4	10 10	Seat: 1600 N Back: 560 N	Passed
6.1.2 Seat front edge static load	EN 1728:2012, 6.5	10	Seat: 1300 N	Passed
6.1.3 Vertical load on back rests	EN 1728:2012, 6.6	10	Back: 600 N Seat: 1300 N	Passed
6.1.4 Foot rest static load test	EN 1728:2012, 6.8			N/A
6.1.4 Leg rest static load test	EN 1728:2012, 6.9			N/A
6.1.5 Arm rest sideways static load test	EN 1728:2012, 6.10			N/A
6.1.6 Arm rest downwards static load test	EN 1728:2012, 6.11			N/A
6.1.7 Vertical upwards static load on arm rests	EN 1728:2012, 6.13	10	Seat: 250 N or lift stack	N/A
6.1.8 Combined seat and back durability test	EN 1728:2012, 6.17	100000 100000	Seat: 1000 N Back: 300 N	Passed
6.1.9 Seat front edge durability test	EN 1728:2012, 6.18	50000	800 N	Passed
6.1.10 Arm rest durability test	EN 1728:2012, 6.20			N/A
6.1.11 Foot rest durability test	EN 1728:2012, 6.21			N/A
6.1.12 Leg forward static load test	EN 1728:2012, 6.15	10	Edge: 500 N) (Seat: 1000 N)	Passed
6.1.13 Legs sideways static load test	EN 1728:2012, 6.16	10	Edge: 400 N) (Seat: 1000 N)	Passed
6.1.14 Seat impact test	EN 1728:2012, 6.24	10	240 mm	Passed
6.1.15 Back impact test	EN 1728:2012, 6.25	10	210 mm/38°	Passed
6.1.16 Arm Impact Test	EN 1728:2012, 6.26			N/A
6.1.17 Drop test (multiple seating)	EN 1728:2012, 6.27.1			N/A
6.1.18 Auxiliary writing surface static load test	EN 1728:2012, 6.14			N/A
6.1.19 Auxiliary writing surface durability test	EN 1728:2012, 6.22			N/A
7 Information for use	EN 16139, 7			N/A

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Photo



The general conditions pertaining to assignments accepted by Danish Technological Institute shall apply in full to the technical testing and calibration at Danish Technological Institute and to the completion of test reports and calibration certificates within the relevant field.

Danish Accreditation (DANAK)

DANAK was established in 1991 in pursuance of the Danish Act No. 394 of 13 June 1990 on the promotion of Trade and Industry.

The requirements to be met by accredited laboratories are laid down in the "Danish Agency for Trade and Industry's ("Erhvervsfremme Styrelsens") Statutory Order on accreditation of laboratories to perform testing etc. and GLP inspection. The statutory order refers to other documents, where the criteria for accreditation are specified further.

The standards DS/EN ISO/IEC 17025 "General requirements for the competence of testing and calibration laboratories" and DS/EN 45002 "General criteria for the assessment of testing laboratories" describe fundamental criteria for accreditation. DANAK uses guidance documents to clarify the requirements in the standards, where this is considered to be necessary. These will mainly be drawn up by the "European co-operation of Accreditation (EA)" or the "International Laboratory Accreditation Co-operation (ILAC)" with the purpose of obtaining uniform criteria for accreditation. In addition, DANAK draws up Technical Regulations with specific requirements for accreditation that are not contained in the standards.

In order for a laboratory to be accredited it is, among other things, required:

- that the laboratory and its personnel are not subject to any commercial, financial or other pressures, which might influence their technical judgement

- that the laboratory operates a documented quality system
- that the laboratory has at its disposal all items of equipment, facilities and premises required for correct performance of the service that it is accredited to perform
- that the laboratory management and personnel have technical competence and practical experience in performing the service that they are accredited to perform
- that the laboratory has procedures for traceability and uncertainty calculations
- that accredited testing or calibration is performed in accordance with fully validated and documented methods
- that the laboratory keeps records, which contain sufficient information to permit repetition of the accredited test or calibration
- that the laboratory is subject to surveillance by DANAK on a regular basis
- that the laboratory shall take out an insurance, which covers liability in connection with the performance of accredited services

Reports carrying DANAK's logo are used, when reporting accredited services and show that these have been performed in accordance with the rules for accreditation.