



TNO Quality Services BV
Ariënsplein 3
NL – 7511 JX Enschede
The Netherlands

Postal address:
P.O. Box 337
NL – 7500 AH Enschede

Parking and delivery:
Van Galenstraat 21
NL – 7511 JL Enschede

www.tno-quality.com

T +31 53 486 04 86
F +31 53 486 04 87

TNO report

TQS-RAP-08.17224.01

Test report relating to office work chairs
according to the European standard EN 1335
part 1 to 3, concerning the product with trade
mark: Chairsupply, type: 707EN/145.

Date	12 January 2009
Author(s)	H.H.J. Weustink
Research period	Week 40-48 / 2008
Client	Chairsupply De Factorij 12a 1689 AL ZWAAG
Project name	Chairsupply 707EN/145
Project number	T08.17224

All rights reserved. No part of this report may be reproduced and/or published in any form by print, photoprint, microfilm or any other means without the previous written permission from TNO.

All information which is classified according to Dutch regulations shall be treated by the recipient in the same way as classified information of corresponding value in his own country. No part of this information will be disclosed to any third party.

In case this report was drafted on instructions, the rights and obligations of contracting parties are subject to either the Standard Conditions for Research Instructions given to TNO, or the relevant agreement concluded between the contracting parties. Submitting the report for inspection to parties who have a direct interest is permitted.

Abstract

The office work chair, trademark: Chairsupply, type: 707EN/145, version(s): cross base FY566, wheels CA566, has been tested according to the European Standards EN 1335-1 [1], EN 1335-2 [2] and EN 1335-3 [3].

The tests have been performed in order to judge whether or not the office work chair meets the applicable requirements of the above-mentioned Standards. The conclusion is that the product shows compliance with these requirements.

Contents

1	Introduction	4
1.1	Purpose	4
1.2	Description of the sample(s)	4
1.3	Sampling procedure	4
1.4	Application	4
1.5	Method of testing	4
1.6	Put out to contract	4
2	Test results.....	5
3	Conclusion	6
4	References.....	7
5	Signature	8
	Appendix A: Product identification	9
	Appendix B: Detailed test results	10
	Appendix C: Remarks	14

1 Introduction

1.1 Purpose

The tests have been performed in order to judge whether or not the product meets the requirements of the European Standards EN 1335-1 [1] and EN 1335-2 [2].

1.2 Description of the sample(s)

General	
Manufacturer	Chairsupply
Trademark	Chairsupply

Table 1: Description of the sample(s)

Sample number	Type	Version	Serial number
MT.08.17224.01	707EN/1454 5	Cross base FY566, wheels CA566	--

For a more detailed description of the sample is referred to Appendix A.

The sample was test worthy.

1.3 Sampling procedure

The sample has been submitted by the manufacturer.
The test house has had no influence on the selection of the sample.

1.4 Application

The request for testing was submitted by Chairsupply
Order number: not applicable.

1.5 Method of testing

All applicable tests have been performed according to the European Standard EN 1335-3 [3].

1.6 Put out to contract

No tests were put out to contract, all tests are performed by TNO Quality Services BV.

2 Test results

Test results after performing all applicable tests according to the European Standards EN 1335-1 [1]:

4 Dimensions pass

and EN 1335-2 [2]:

4 Safety requirements pass

5 Information for use pass

For detailed test results is referred to Appendix B.

3 Conclusion

The office work chair, trademark: Chairsupply type: 707EN/145, version(s): cross base FY566, wheels CA566, meets the applicable requirements as stated in the European Standards EN 1335-1 [1] and EN 1335-2 [2].




The test results exclusively relate to the inspected object.

4 References

- 1 European Standard EN 1335-1:2000 E,
Office furniture – Office work chair – Part 1: Dimensions – Determination of
dimensions,
European Committee of Standardization, April 2000.

Corrigendum EN 1335-1:2000 E/AC, July 2002.
- 2 European Standard EN 1335-2:2002 E,
Office furniture – Office work chair – Part 2: Safety requirements,
European Committee of Standardization, February 2000.
- 3 European Standard EN 1335-3:2003 E,
Office furniture – Office work chair – Part 3: Safety test methods,
European Committee of Standardization, February 2000.

5 Signature

Author	Signature
Mr. H.H.J. Weustink, MSc.	
Project Leader	
Peer review	Signature
Mrs. M.H. Ottink, BSc.	
Project Manager	
Approved by	Signature
Mr. B.R.F. Boerboom, Bsc.	
Business unit manager, a.i.	

Appendix A: Product identification

Manufacturer	Chairsupply
Trademark	Chairsupply
Type	707EN/145
Version	cross base FY566, wheels CA566

Seat height	mechanically adjustable
Back rest	adjustable, high
Lumbar support	not adjustable
Arm rest	height adjustable, turnable
Seat depth	adjustable seat,

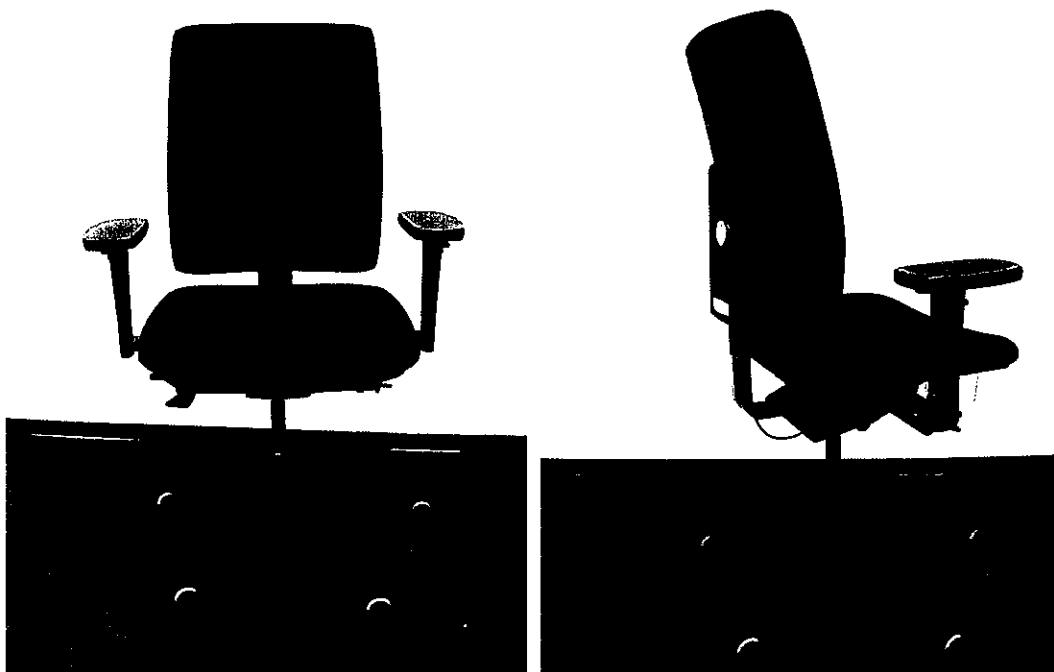


Figure 1: Photograph of the tested sample, trademark: Chairsupply, type: 707EN/145
version: cross base FY566, wheels CA566

Appendix B: Detailed test results

Each under-mentioned requirement states only a very short description and refers to the complete text in the applicable standards.

Sample nr: Req. nr.	MT.08.17224.01 Description of the requirement	Results for type: Version: Required	707EN/14545 cross base FY566, wheels CA566 Value of the test	Pass / fail / n.a.
	EN 1335-1			
4	Dimensions			
	The chair shall provide support to the thighs and the lumbar region with sufficient depth and height to provide all users with a sitting position suited to their activity and their height.	The dimension of the chair shall comply with one of the types of annex A. An exception is made in the case of the stability dimension t, provided that the chair passes the rearwards stability tests according to 5.4.2 and 5.4.3 of EN 1335-3.	For the values of the test is referred to Table A at the end of Appendix B.	pass
	EN 1335-2			
4	Safety requirements			
4.1	General design requirements			
4.1.1	Corners and edges, trapping, pinching and shearing			
	These requirements are met when:	the safety distance of accessible movable parts is either ≤ 8 mm or ≥ 25 mm in any position during movement;	≤ 8 mm and ≥ 25 mm	pass
		accessible corners are rounded with minimum 2 mm radius;	minimum 2 mm	pass
		the edges of the seat, back rest and arm rests which are in contact with the user when sitting in the chair are rounded with minimum 2 mm radius;	rounded with minimum 2 mm radius	pass
		the edges of handles are rounded with minimum 2 mm radius in the direction of the force applied;	rounded with minimum 2 mm radius	pass
		all other edges are free from burrs and rounded or chamfered;	free from burrs and rounded or chamfered	pass
		the ends of hollow components are closed or capped.	closed / capped	pass

Sample nr: Req. nr.	MT.08.17224.01 Description of the requirement	Results for type: 707EN/14545 Version: Required	cross base FY566, wheels CA566 Value of the test	Pass / fail / n.a.
4.1.2	Adjusting devices	Movable and adjustable parts shall be designed so that injuries and inadvertent operation are avoided. It shall be possible to operate the adjusting devices from sitting position in the chair.	injuries and inadvertent operation are avoided; operating adjusting devices from sitting position is possible	pass pass
4.1.3	Connections	It shall not be possible for any load bearing part of the chair to come loose unintentionally.	not possible	pass
4.1.4	Avoidance of soiling	All parts which are lubricated to assist sliding (greasing, lubricating, etc.) shall be designed to protect users from lubricant stains when in normal use.	designed to protect users from lubricant stains	pass
4.3	Stability during use The chair shall not overbalance under the following conditions:	a) by pressing down on the front edge of the seat surface in the most adverse position;	no overbalance	pass
		b) by leaning out over the arm rests;	no overbalance	pass
		c) by leaning against the back rest;	no overbalance	pass
		d) by sitting on the front edge.	no overbalance	pass
4.4	Rolling resistance of the unloaded chair The unloaded chair shall not roll unintentionally. This requirement is met when:	the rolling resistance is ≥ 15 N with castors Type H or ≥ 12 N with castors Type W when tested according to 6.1 of EN 1335-3:2000 and	Type H: > 15 N	pass
		the castors are of identical construction.	identical construction	pass
4.5	Strength and durability 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:	a) sitting on the seat, both centrally and off-centre;	no risk of injury to the user	pass
		b) moving forward, backwards, and sideways while sitting in the chair;	no risk of injury to the user	pass
		c) leaning over the arm rests;	no risk of injury to the user	pass
		d) pressing down on the arm rests while getting up from the chair.	no risk of injury to the user	pass
	These requirements are fulfilled when after the tests specified in 7 and 9.1 of EN 1335-3:2000:	- there are no fractures of any member, joint or component,	no fractures of any member, joint or component	pass

Sample nr: Req. nr.	MT.08.17224.01 Description of the requirement	Results for type: 707EN/14545 Version: Required	cross base FY566, wheels CA566 Value of the test	Pass / fail / n.a.
		- there is no loosening of joints intended to be rigid,	no loosening of joints intended to be rigid	pass
		- no major structural element is significantly deformed,	no major structural element significantly deformed	pass
		- the chair fulfils its functions after removal of the test loads	fulfils its functions after removal of the test loads	pass
	and when:	- the back rest pivot or stop shows no fracture (damage to other parts of the chair shall be ignored) when tested according to 8 of EN 1335-3:2000,	back rest pivot or stop shows no fracture	pass
		- after the test in 9.2.1 of EN 1335-3:2000 the arm rests show no damage or fracture and the chair passes the stability test in 5.3.2 of EN 1335-3:2000,	the arm rests show no damage or fracture; the chair passes the stability test in 5.3.2 of EN 1335-3	pass
		- after the test in 9.2.2 of EN 1335-3:2000 the arm rests show no fracture.	the arm rests show no fracture	pass
5	Information for use Each chair shall be accompanied by information for use 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;	Information available in Information for use	pass
		b) Information regarding possible adjustments and chair type (see EN 1335-1:2000);	Information available in Information for use	pass
		c) Instruction for operating the adjusting mechanisms;	Information available in Information for use	pass
		d) Instruction for the care and maintenance of the chair;	Information available in Information for use	pass
		e) Information regarding adjustment of the seat and back rest;	Information available in Information for use	pass
		f) in case of chairs with seat height adjustments with energy accumulators, an additional note is required pointing out, that only trained personnel may replace or repair seat height adjustment components with energy accumulators;	No seat height adjustments with energy accumulators	pass
		g) Information on the choice of castors in relation to the floor surface.	Information available in Information for use	pass

Table A from EN 1335-1

Symb.	Description	Requirement according to EN 1335-1 for type A	Measured values	pass / fail / n.a.
	Seat			
a	Seat height	Adjustable: min. 400 - max. 510 mm Adjustment range: min. 120 mm	401 - 541 mm 140 mm	pass
b	Seat depth	Adjustable: min. 400 - 420 mm Adjustment range: min. 50 mm	380 - 480 mm 100 mm	pass
c	Depth of seat surface	Min. 380 mm	490 mm	pass
d	Seat width	Min. 400 mm	490 mm	pass
e	Inclination of seat surface	Adjustable: min. -2 - max. -7 ° Adjustment range: min. 6 °	+3 - -17 ° 20 °	pass
	Back rest			
f	Height of the back supporting point "S" above seat surface	Adjustable: min. 170 - 220 mm Adjustment range: min. 50 mm	159 - 229 mm 70 mm	pass
g	Height of the back pad - adjustable in height - non- adjustable in height	Min. 220 mm Min. 260 mm	560 mm n.a.	pass
h	Height of the upper edge of the back rest above seat surface	Min. 360 mm	571 mm	pass
i	Back rest width	Min. 360 mm	450 mm	pass
k	Horizontal radius of the back rest	Min. 400 mm	415 mm	pass
l	Back rest inclination	Min. 15 °	16 °	pass
	Arm rest			
n	Length of arm rest	Min. 200 mm	220 mm	pass
o	Width of arm rest	Min. 40 mm	115 mm	pass
p	Height of arm rest above seat	Non adjustable 200 - 250 mm Adjustable 200 - 250 mm	n.a. 201 - 303 mm	pass
q	Distance front of arm rests to front edge of seat surface	Min. 100 mm	250 mm	pass
r	Clear width between arm rests	Min. 460 - max. 510 mm	360 - 510 mm	pass
	Underframe			
s	Max. offset of the underframe (anti-stumbling dimension)	Max. 365 / 415 mm	340 mm	pass
t	Stability dimension	Min. 195 mm	210 mm	pass

(An exception is made in the case of the stability dimension t, provided that the chair passes the rearwards stability tests according to 5.4.2 and 5.4.3 of EN 1335-3).

Appendix C: Remarks

Sample nr:	MT.08.17224.01	Results for type:	707EN/145	cross base FY566, wheels CA566
Req. nr.	Description of the requirement	Version:	Remark:	
		No remarks		

End of test report relating to office work chairs according to the European standard
EN 1335 part 1 to 3.