



Test Report No. 2013-04-26-002_003		Page 1(14) Rev. 03	
Customer	Scandinavian Business Seating AS Sundveien 7374 Røros, Norway		
Customer contact	Product & Brand Concept v/ Christian Eide Lodgaard		
Test item	RBM Noor. Sledge frame, four legged tube frame, four wooden legs		
Test item ID:	RBM Noor 6050, 6055, 6060, 6065, 6080, 6085		
Serial No.	1110340524-1, 1110340524-2, 1110357995-1, 1110357995-2, 1110363225-3, 1110363225-4		
Order No.	2013-04-26-002, 2013-04-26-003		
Date of receipt.	2013-05-29, 2013-08-21, 2013-09-17		
Testing commenced / finished	2013-06-05 / 2013-10-17		
Performing Laboratory.	Testlab SBSeating Røros, Scandinavian Business Seating AS Sundveien 7374 Røros, Norway +47 72 40 72 00		
Accredited by.	Norsk Akkreditering Fetveien 99 2007 Kjeller +47 64 84 86 00	Valid from: 2013-04-18 Registration No.: Test 275	Valid to: 2018-04-18
Tested according to.	NS-EN16139:2013 Level I		
Test result.	The test items passed the test specifications		
Tested by:	 John Anders Spencer		Approved by:
2013-10-29			 Torbjørn Bendixvold
Date	Name	Sign.	Date
			Name
			Sign.
Additional information.			
The test results refer only to the samples tested.			
The chair is manufactured with approved parts.			
The temperature during testing has been within the specified range 15-25 degrees Celsius.			
Rev.01 Dated 2013-09-30 includes the test results for model 6055 and 6065			
Rev.02 Dated 2013-09-30 includes corrections of measurement uncertainty, and added measurement uncertainty table for stability			
Rev.03 Dated 2013-10-29 includes test results for models 6080 and 6085			
Abbreviations	P	=Passed	
	F	=Failed	
	NA	=Not applicable	
	NT	=Not tested	

Test Report No. **2013-04-26-002_003**

Page **2(14)**
Rev. 03

Test equipment.	ID.	Last calibration.	Next calibration.
Measuring table	TL-5013	NA	NA
Stability table	TL-5012	NA	NA
Multi test field. Cycle and drop	TL-5005→TL-5008	NA	NA
Static testrig	TL-5003	NA	NA
Arm rest loading pads	TL- 1257→TL-1258	2013-02-25	2014-02-25
Chair Measuring Device	TL-1201	2013-06-11	2014-06-11
Sideways arm rest test cylinder	TL-1248	2012-05-21	2015-05-21
Loading point template	TL-1225	2012-10-10	2015-10-10
Height gauge	TL-1205	2012-10-26	2013-10-26
Tape measure	TL-1203	2012-10-24	2013-10-24
Tape measure	TL-1247	2012-10-24	2013-10-24
Caliper	D-036	2013-06-02	2014-06-02
Protractor	TL-1244	2012-10-30	2013-10-30
Square angle	TL-1206	2012-10-26	2013-10-26
Weight bags	TL-1100→TL-1112	2013-06-11	2014-06-11
Load cells	TL1235→TL-1236	2013-03-19	2014-03-19
Load cells	TL-1226→TL-1231	2013-03-19	2014-03-19
Loading pad	TL-1207	2013-06-11	2014-06-11
Loading pads	TL-1213→TL-1219	2012-05-23	2015-05-23
Loading pads	TL-1252→TL-1253	2012-11-24	2015-11-24
Loading pad	TL-1254	2013-01-29	2015-01-29
Loading fixture	TL-1208	2013-06-11	2014-06-11
Loading fixture	TL-1211	2013-06-11	2014-06-11
Fixture for masses	TL-1209	2013-06-11	2014-06-11
Fixture for masses	TL-1099	2013-06-11	2014-06-11
Fixture for masses	TL-1265	2013-06-11	2014-06-11
Chain w/ carabine hooks	TL-1210	2013-06-11	2014-06-11
Masses	TL-1001→TL-1056	2013-06-11	2014-06-11
Digital force gauge	TL1239	2013-03-19	2014-03-19
Strap	TL-1212	NA	NA
Impact hammer	TL-1224	2012-05-23	2015-05-23

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This test report only relates to the items mentioned on page 1 as test item.

Test Report No. **2013-04-26-002_003**

Page **3(14)**
Rev. 03

Estimated uncertainty of measurement

Measurement	Description	Uncertainty (mm)
<i>a</i>	Seat height	0,12
<i>b</i>	Seat depth	0,59
<i>d</i>	Seat width	0,34
<i>r</i>	Clear width between the useful area of the arm rests	0,14

Estimated uncertainty of stability measurement (swivel chairs)

Measurement	Description	Uncertainty (N)
7.1.1	Front edge overturning	1,22
7.1.2	Forwards overturning	1,50
7.1.4	Sideways overturning for chairs without armrests	3,54
7.1.5	Sideways overturning for chairs with armrests	1,34
7.1.6	Rearwards overturning for chairs without back rest inclination	1,45
7.1.7	Rearwards overturning for chairs with back rest inclination	2,23

Estimated uncertainty of stability measurement (non-swiveling chairs)

Measurement	Description	Uncertainty (N)
6.2	Forwards overbalancing all seating	1,09
6.4	Sideways overbalancing all seating without arms	1,92
6.5	Sideways overbalancing all seating with arms	1,11
6.6	Rearwards overbalancing all seating with backs	1,67
7.3	Rearwards overbalancing tilting chairs	1,50

Test Report No. **2013-04-26-002_003**

Page **4(14)**
Rev. 03

Brief description of the test item upon receipt.

RBM NOOR

Model 6050

Visitors chair made of plastic (PP). Frame with 4 legs made of 16mm. coated steel tubing and arms made of steel rods and plastic.

Model 6055

Visitors chair made of veneer. Frame with 4 legs made of 16mm. coated steel tubing.

Model 6060

Visitors chair made of plastic (PP). Sledgeframe made of 12mm. coated steel rod and arms made of steel rods and plastic.

Model 6065

Visitors chair made of veneer. Sledgeframe made of 12mm. coated steel rod.

Model 6080

Visitors chair made of plastic (PP). Four wooden legs and aluminium seat frame.

Model 6085

Visitors chair made of veneer. Four wooden legs and aluminium seat frame.

Remarks:

The chairs were inspected at receipt with no remarks.



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Test Report No. **2013-04-26-002_003**

Page **5(14)**
Rev. 03

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

Clause	Requirements / Remarks	Result
1. Scope	<p>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.</p> <p>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.</p> <p>This European Standard does not include requirements for the durability of upholstery materials, castors, reclining and tilting mechanisms and seat height adjustment mechanisms.</p> <p>This European Standard does not include requirements for the resistance to ageing, degradation and flammability.</p>	
Remarks		
3. Terms and definitions	See test specification	
Remarks		
4	Safety requirements	
4.1	<p>General</p> <p>The seating shall be so designed as to minimise the risk of injury to the user.</p> <p>All accessible parts (3.1) shall be so designed that physical injury and damage are avoided.</p> <p>This requirement is met when:</p> <ol style="list-style-type: none"> accessible corners are rounded or chamfered; 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; the edges of handles are rounded or chamfered in the direction of the force applied; all other edges are free from burrs and rounded or chamfered; the ends of hollow components are closed or capped. <p>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.</p> <p>All parts which are lubricated to assist sliding shall be designed to protect users from lubricant stains when in normal use.</p>	P
	Remarks	

Test Report No. **2013-04-26-002_003**

Page **6(14)**

Rev. 03

Clause	Requirements / Remarks	Result
4.2	Shear and squeeze points	
4.2.1	<p>Shear and squeeze points when setting up and folding</p> <p>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.</p> <p>The edges of parts moving relative to each other and creating shear and squeeze points shall be as specified in 4.1 .</p> <p>Remarks</p>	NA
4.2.2	<p>Shear and squeeze points under influence of powered mechanism</p> <p>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.</p> <p>Remarks</p>	NA
4.2.3	<p>Shear and squeeze points during use</p> <p>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 I.</p> <p>Remarks</p>	P
4.3	Stability	
4.3.1	<p>General</p> <p>The seating shall not overturn under the following conditions:</p> <ul style="list-style-type: none"> 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</p>	P
4.3.2	<p>Swivelling chairs</p> <p>Requirements a) to e) are considered to be met if the seating complies with 4.3 of EN 1335-2:2009. Requirements f) are considered to be met if the seating complies with EN 1022.</p> <p>Remarks</p>	NA

Test Report No. **2013-04-26-002_003**

Page **7(14)**
Rev. 03

Clause	Requirements / Remarks	Result																																								
4.3.3	<p>Non swivelling chairs The seating shall fulfil the relevant requirements of EN 1022</p>	P																																								
	<p>Remarks During testing according to NS-EN 1022:2005 the following forces in N. was noted.</p> <table border="1"> <thead> <tr> <th></th> <th>Requirements</th> <th>Model 6050</th> <th>Model 6060</th> <th>Model 6055</th> <th>Model 6065</th> <th>Model 6080</th> <th>Model 6085</th> </tr> </thead> <tbody> <tr> <td>6.2 Forward overbalancing:</td> <td>20N horizontal force</td> <td>93,7</td> <td>40,5</td> <td>85</td> <td>32</td> <td>77</td> <td>75</td> </tr> <tr> <td>6.4 Sideways overbalancing:</td> <td>20N horizontal force</td> <td>143</td> <td>168</td> <td>158</td> <td>183</td> <td>124</td> <td>120</td> </tr> <tr> <td>6.5 Sideways overbalancing w/ arms</td> <td>20N horizontal force</td> <td>72</td> <td>100</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>6.6 Rearwards overbalancing:</td> <td>Horizontal force, calculated from seat height: 6050 F = 162 N 6060 F = 161 N 6055 F = 161 N 6065 F = 162 N 6080 F = 161 N 6085 F = 161 N</td> <td>205</td> <td>205</td> <td>194</td> <td>204</td> <td>193</td> <td>188</td> </tr> </tbody> </table> <p>See photo documentation: Pic. 44, 45, 46, 47, 63, 64</p>		Requirements	Model 6050	Model 6060	Model 6055	Model 6065	Model 6080	Model 6085	6.2 Forward overbalancing:	20N horizontal force	93,7	40,5	85	32	77	75	6.4 Sideways overbalancing:	20N horizontal force	143	168	158	183	124	120	6.5 Sideways overbalancing w/ arms	20N horizontal force	72	100	N/A	N/A	N/A	N/A	6.6 Rearwards overbalancing:	Horizontal force, calculated from seat height: 6050 F = 162 N 6060 F = 161 N 6055 F = 161 N 6065 F = 162 N 6080 F = 161 N 6085 F = 161 N	205	205	194	204	193	188	
	Requirements	Model 6050	Model 6060	Model 6055	Model 6065	Model 6080	Model 6085																																			
6.2 Forward overbalancing:	20N horizontal force	93,7	40,5	85	32	77	75																																			
6.4 Sideways overbalancing:	20N horizontal force	143	168	158	183	124	120																																			
6.5 Sideways overbalancing w/ arms	20N horizontal force	72	100	N/A	N/A	N/A	N/A																																			
6.6 Rearwards overbalancing:	Horizontal force, calculated from seat height: 6050 F = 162 N 6060 F = 161 N 6055 F = 161 N 6065 F = 162 N 6080 F = 161 N 6085 F = 161 N	205	205	194	204	193	188																																			
4.4	<p>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.</p>	NA																																								
	Remarks																																									
4.5	<p>Safety of the construction The following tests described in Clause 6, Table I 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>	P																																								
	Remarks																																									

Test Report No. **2013-04-26-002_003**

Page **8(14)**
Rev. 03

Clause	Requirements / Remarks	Result
5	<p>Safety, strength and durability requirements</p> <p>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:</p> <ul style="list-style-type: none"> - sitting on the seat, both centrally and off-centre; - 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. <p>These safety, strength and durability requirements are fulfilled when during and after testing in accordance with Table I :</p> <ul style="list-style-type: none"> 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 fulfills its functions after removal of the test loads. <p>The stability requirements are fulfilled when after testing in accordance with Table I the seating does not overturn.</p>	P
	Remarks	
6	<p>Test methods</p> <p>Seating shall be tested on the same sample for safety, strength and durability according to Table I and following the order listed in Table I.</p> <p>The guidance for selecting level L 1 or L2 with due respect for the end use of the product is given in Annex B.</p>	P
	Remarks	

Test Report No. **2013-04-26-002_003**

Page **9(14)**

Rev. 03

Table I - Strength and durability tests

Test and sequence	Reference	Loading ^a	Level		Result Level I
			L1	L2	
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 ² PIC.1, 2, 32, 53
2. Seat front edge static load test	EN 1728:2012, 6.5	Force, N 10 times	1300	1600	P PIC.3, 33, 54
3. Vertical static load on back ^b	EN 1728:2012, 6.6	Force, N Seat load, N 10 times	600 1300	900 1800	P PIC.4, 5, 34, 55
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 PIC. 6, 7
6. Arm downwards static load test	EN 1728:2012, 6.11	Force, N 5 times	750	900	P PIC. 8, 9
7. Vertical upwards static load on arm rests	EN 1728:2012, 6.13.1	Seat load, N Lift 10 times, during ≥10 s	250 or lift stack with max. 8 chairs of max 25kg	1200	P PIC. 10, 11
8. Seat and back durability test	EN 1728:2012, 6.17	Cycles Seat: 1000N Back: 300N	100 000	200 000	P PIC.12, 13, 14, 32, 56
9. Seat front edge durability test	EN 1728:2012, 6.18	Cycles Force: 800N	50 000	100 000	P PIC.15, 16, 35, 36, 57
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 ¹ PIC.17, 18, 37, 38, 58
13. Leg sideways static load test	EN 1728:2012, 6.16	Force, N Seat load, N 10 times	400 1000	760 1800	P ³ PIC.19,20, 21, 39, 40, 59
14. Seat impact test	EN 1728:2012, 6.24	Drop height, mm 10 times	240	300	P PIC. 22, 23, 24, 25, 41, 42, 43, 60, 61
15. Back impact test	EN 1728:2012, 6.25	Height of fall, mm/ ^o 10 times	210/38	330/48	P PIC.26, 27, 62
16. Arm impact test	EN 1728:2012, 6.26	Height of fall, mm/ ^o 10 times	210/38	330/48	P PIC.28
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

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Test Report No. 2013-04-26-002_003

Page **10(14)**
Rev. 03

- ^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 Maximum possible force before the chairs starts tipping forward is: 6050 = 363 N, 6060 = 353 N, 6055 = 400N, 6065 = 400N, 6080 = 360N, 6085 = 360N

² Maximum possible force before the chairs starts tipping rearward is: 6055 = 530N, 6065 = 500N, 6080 = 560N, 6085 = 530N

³ Maximum possible force before the chair starts tipping sideways is: 6080 = 390N, 6085 = 380N

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 enduser. 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.I – Additional tests

Test and sequence	Reference	Loading	Level		Result
			L1	L2	
1. Drop test for stacking seating	EN 1728:2012, 6.27.2	Drop height, mm 10 times	150	200	P ¹ PIC.29,30,48,49
2.Backward fall test	EN 1728:2012, 6.28	Cycles	5	5	P ² PIC. 50, 52
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	P PIC.31, 51, 65

¹ Additional mass applied to get total weight of test stack below 20kg is: 6055 = 10kg, 6065 = 7,4kg
² Required force to lift front legs off the floor is: 6055 = 12,5N, 6065 = 16N

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). <u>Examples of end-use:</u> 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. <u>Examples of end-use:</u> night-clubs, police stations, transport terminals, sport changing rooms, prisons, barracks (non-controlled areas).

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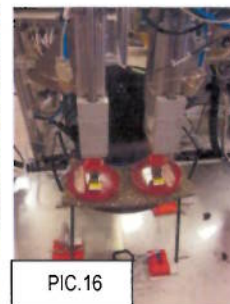
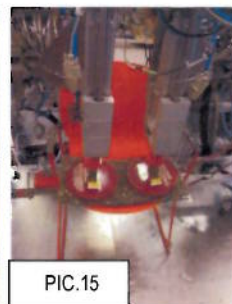
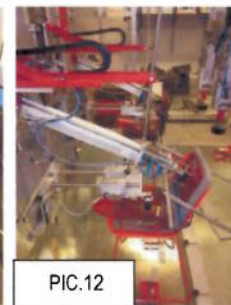
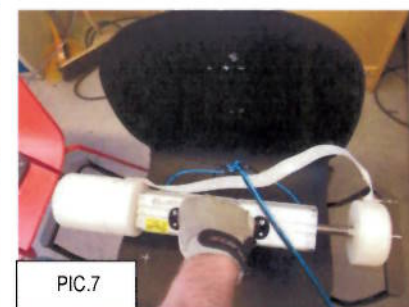
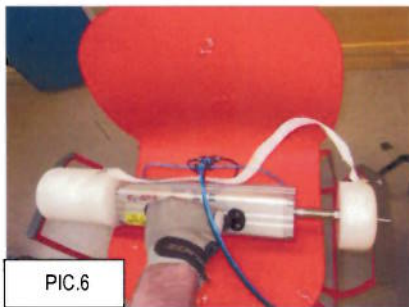
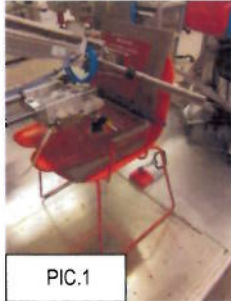
Test Report No. **2013-04-26-002_003**

Page **11(14)**
Rev. 03

Annex c
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.	
	Remark	
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 All chair models have fixed seat height. 6050 = 438mm 6060 = 436mm 6055 = 438mm 6065 = 438mm 6080 = 441mm 6085 = 441mm	
C.2.2	Seat depth (b) Seat depth: between 380 mm and 470 mm.	P
	Remark 6050 = 437mm 6060 = 436mm 6055 = 432mm 6065 = 432mm 6080 = 438mm 6085 = 437mm	
C.2.3	Seat width (d) Seat width: minimum 400 mm.	P
	Remark 6050 = 429mm 6060 = 428mm 6055 = 428mm 6065 = 428mm 6080 = 430mm 6085 = 428mm	
C.2.4	Distance between arm rests (r) Distance between arm rests: minimum 460 mm.	P
	Remark 6050 = 465mm 6060 = 465mm 6055 = N/A 6065 = N/A 6080 = N/A 6085 = N/A	

Annex I – Photo documentation



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PIC.21



PIC.22



PIC.23



PIC.24



PIC.25



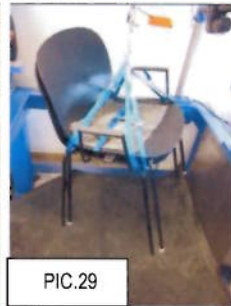
PIC.26



PIC.27



PIC.28



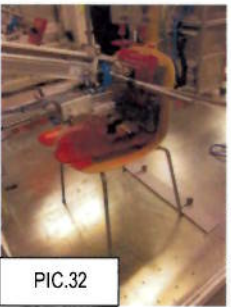
PIC.29



PIC.30



PIC.31



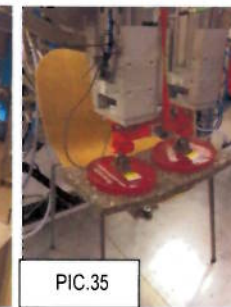
PIC.32



PIC.33



PIC.34



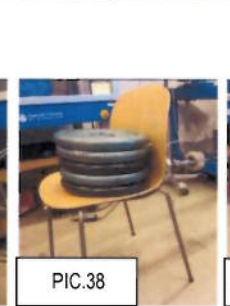
PIC.35



PIC.36



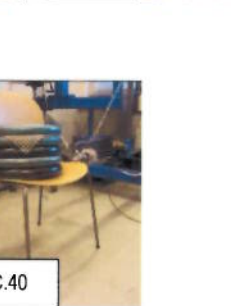
PIC.37



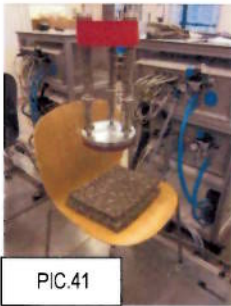
PIC.38



PIC.39



PIC.40



PIC.41



PIC.42



PIC.43



PIC.44

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This test report only relates to the items mentioned on page 1 as test item.

Test Report No. **2013-04-26-002_003**

Page **14(14)**
Rev. 03



PIC.45



PIC.46



PIC.47



PIC.48



PIC.49



PIC.50



PIC.51



PIC.52



PIC.53



PIC.54



PIC.55



PIC.56



PIC.57



PIC.58



PIC.59



PIC.60



PIC.61



PIC.62



PIC.63



PIC.64



PIC.65

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