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RH Form AB
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Test of chairs regarding ESD protective properties

1 Client

RH Form AB, Nässjö, Sweden.

2 Test objects

Four chairs manufactured by RH Form AB with the following type designations:

Logic 400 ESD

Seat: Logic 300/400
Back rest: Logic 400
Dressing of seat and backrest: ESD-Global
Armrests: -
Mechanism: Logic 400 M
Gas spring: 4P
Base: 5X black
Wheels: 7FM



Logic 400 ESD

Seat: Logic 300/400
Back rest: Logic 400
Dressing of seat and backrest: ESD-Gaja
Armrests: -
Mechanism: Logic 400 M
Gas spring: 4P
Base: 5X polished
Wheels: 7HF



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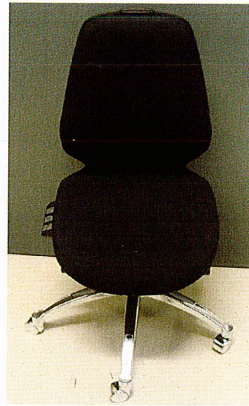
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Logic 300 ESD

Seat: Logic 300/400
 Back rest: Logic 300
 Dressing of seat and backrest: ESD-Gaja
 Armrests: -
 Mechanism: Logic 300 M
 Gas spring: 4P
 Base: 5X polished
 Wheels: 7FM



Logic 300 ESD

Seat: Logic 300/400
 Back rest: Logic 300
 Dressing of seat and backrest: ESD-Vinyl
 Armrests: -
 Mechanism: Logic 300 M
 Gas spring: 4P
 Base: 5X black
 Wheels: 7HF



The chairs arrived at SP 2010-01-19

3 Commission

Tests for ESD-approval according to IEC 61340.

4 Performance and result

The measurements were performed by Ingvar Karlson 2010-03-08 according to IEC 61340-5-1, edition 1.0, 2007 and IEC 61340-2-3, first edition (SP-method 2472, issue 6 with appendix 6, issue 5).

The test objects were conditioned during more than 48 h in 23 °C ±2 °C and 12 % RH ±3 % RH. The measurements were performed in the same climate.

Instrument: SP inv. No. 501419; instrument uncertainty less than ± 1%.
 SP inv. No. 502920; instrument uncertainty less than ± 3 V.

4.1 Resistance to ground

Resistance values were measured at 10 V and 100 VDC from seats, back rests and the top of the arm rests to one wheel/glide button at the time.

All chairs were measured.

Result

All measured resistance values were less than $2.7 \times 10^5 \Omega$.

Requirement of resistance to ground less than $10^{10} \Omega$ to at least two wheels was fulfilled.

4.2 Measurements according to SP-Method 2472, issue 6, section 7.3.

4.2.1 Resistance to ground

Resistance was measured from all parts of the chairs to ground at 100 VDC.

All chairs were measured.

Result

The following parts had a resistance to ground higher than $10^9 \Omega$.

Adjustment knobs made of black plastic underneath the seat.

Adjustment handle made of black plastic underneath the seat.

Plastic cover placed beneath the seat made of black plastic and adjustment buttons integrated with the plastic cover.

4.2.2 Electrostatic potentials

Electrostatic potentials on parts positioned higher than 50 cm from the floor

Parts having a resistance to ground higher than $10^9 \Omega$ were measured regarding electrostatic potentials. The potentials were measured 2 s after a slight touch with the hand or cloth. The measurements were performed with a metal plate (\varnothing 20 mm, 2 pF) simulating a small sensitive device (instrument SP inv. No. 501781; instrument uncertainty $< \pm 1\%$).

Result

No parts positioned higher than 50 cm from the floor had a resistance to ground higher than $10^9 \Omega$

Electrostatic potentials on parts positioned less than 50 cm from the floor.

Electrostatic potentials were measured at a distance 50 cm from the floor. The potentials were measured 2 s after a slight touch with the hand or cloth. The measurements were performed with a metal plate (\varnothing 20 mm, 2 pF) simulating a small sensitive device (instrument SP inv. No. 501781; instrument uncertainty $< \pm 1\%$).

Result

No electrostatic potentials higher than 10 V were measured.

4.2.3 Summary of measurements of resistance and electrostatic potentials

Result

The requirement that a product in an EPA must not accumulate and keep an electrostatic voltage higher than 100 V for longer than a maximum of 2 s was fulfilled.

4.3 Marking

The chairs shall be marked with ESD-symbol, manufacturers name and type designation.

5 Summary

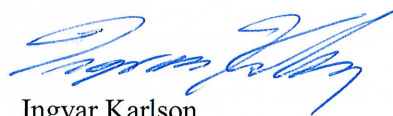
The chairs fulfilled the requirements according to IEC 61340-5-1, edition 1.0, 2007.

The test result applies to the tested objects only.

SP Technical Research Institute of Sweden
Electronics - Product Safety



Anders Nilsson
Technical Manager



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