

Client: Quartzline
Peter Groeneweg
W.A. Boogaerdstraat 5
3316 BN Dordrecht

Project: ESD floor system Quartzline Dordrecht

About: ESD measurement EUROPOX ESD



cast floor Druten, 1 May 2024

Dear Mr. Groeneweg,

You will hereby receive the report of the ESD measurements dated April 30.

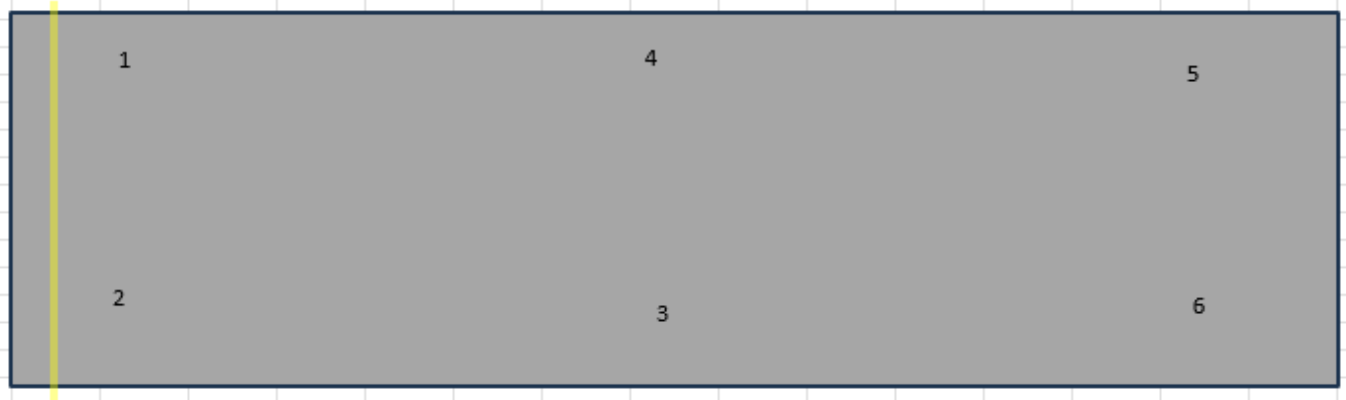
Introduction:

Mijtech is asked to measure the EUROPOX ESD cast floor and report the results.

The cast floor consists of, among other things: The primer Europox WA AN and the cast floor EUROPOX SLR AN.




Schedule measurement locations:
EUROPOX ESD self-levelling floor: test set-up 5 x 1 m



Work carried out:

Grid measurement, 6 measuring points, in addition the walking test was carried out.

ESD table measurement results:

<div>THE DUTCH FLOOR TESTING COMPANY</div>					<div>mJtech kunststofvloeradvies nenstandards committee member</div>					
STANDARD IEC 61340-5-1:2016-05			ESD measurement		NPR 8868: 2019 EN					
<div><div><div>date30-4-2024</div><div>projectQuartzline ESD</div><div>Implemented byRene Mijling & Raymond Langeveld</div></div><div><div>companyQuartzline</div><div>contactPeter Groeneweg</div><div>streetW.A. Boogaerdstraat 5</div><div>place3316 BN Dordrecht</div></div></div>			<div></div>		<div><div>gienvloer sample 5 x 1 m</div><div></div><div></div><div></div><div></div><div></div></div>					
location			Rg mens ESD schoen	unit	Rg floor (measuring pot)	unit	Walkingtest	temperature	R.V.	remark
			earth	ohm	earth	ohm		in °C	in %	
			IEC 61340-4-5 eis Rg ≤ 109 ohm		IEC 61340-4-1 eis Rg ≤ 109 ohm		IEC 61340-4-5 eis ≤ 100 V			
			IEC 61340-4-5 eis Rg ≤ 1000 M ohm		IEC 61340-4-1 eis Rg ≤ 1000 M ohm					
1			30,9 M		10,9 M		from - 30.01 V to - 7.4 V	57	19,3	
2			29 M		3,4 M					
3			27 M		92,9 M					
4			32 M		120 M					
5			31,8 M		38,9 M					
6			29,2 M		21,8 M					
Electrometer			WT 5000		insulation measuring device			Mertiso 3000		
producer			Wolfgang Warmbier		producer			Wolfgang Warmbier		
Serial number			10580419		Serial number			ZB1552		
calibration valid			17-12-2024		calibration valid			17-12-2024		

Conclusion ESD:

Based on all measurements and results carried out, the ESD floor system meets the requirements with regard to electrostatic stress build-up.

The requirement is max. 100 V, IEC 61340-4-5.

This is the most important test to demonstrate that the floor is safe with regard to working with ESD sensitive materials.

If no electrostatic voltage is built up, it cannot damage components in the event of spontaneous discharges through these components.

The floor meets the requirement of max. 100 V.

The ESD flooring system meets the requirements for continuity resistance measured in accordance with IEC 61340-4-5 at all locations. Requirement $R_g \leq 1000 \text{ M ohms}$.

The ESD floor system meets the resistance measurement measured in accordance with IEC 61340-4-1 at all locations. Requirement $R_g \leq 1000 \text{ M ohms}$.

If the resistance measurements meet at least one of the two methods for determining the resistance measurements IEC 61340-4-1 and/or IEC 61340-4-5, and the electrostatic voltage build-up is $< 100 \text{ V}$ - IEC 61340-4-5, then the floor complies with the standards. (NPR 8868_2019). **In terms of standards, the ESD floor meets all ESD requirements.**

Remark:

The starting point is that the people who work in this space wear ESD shoes.



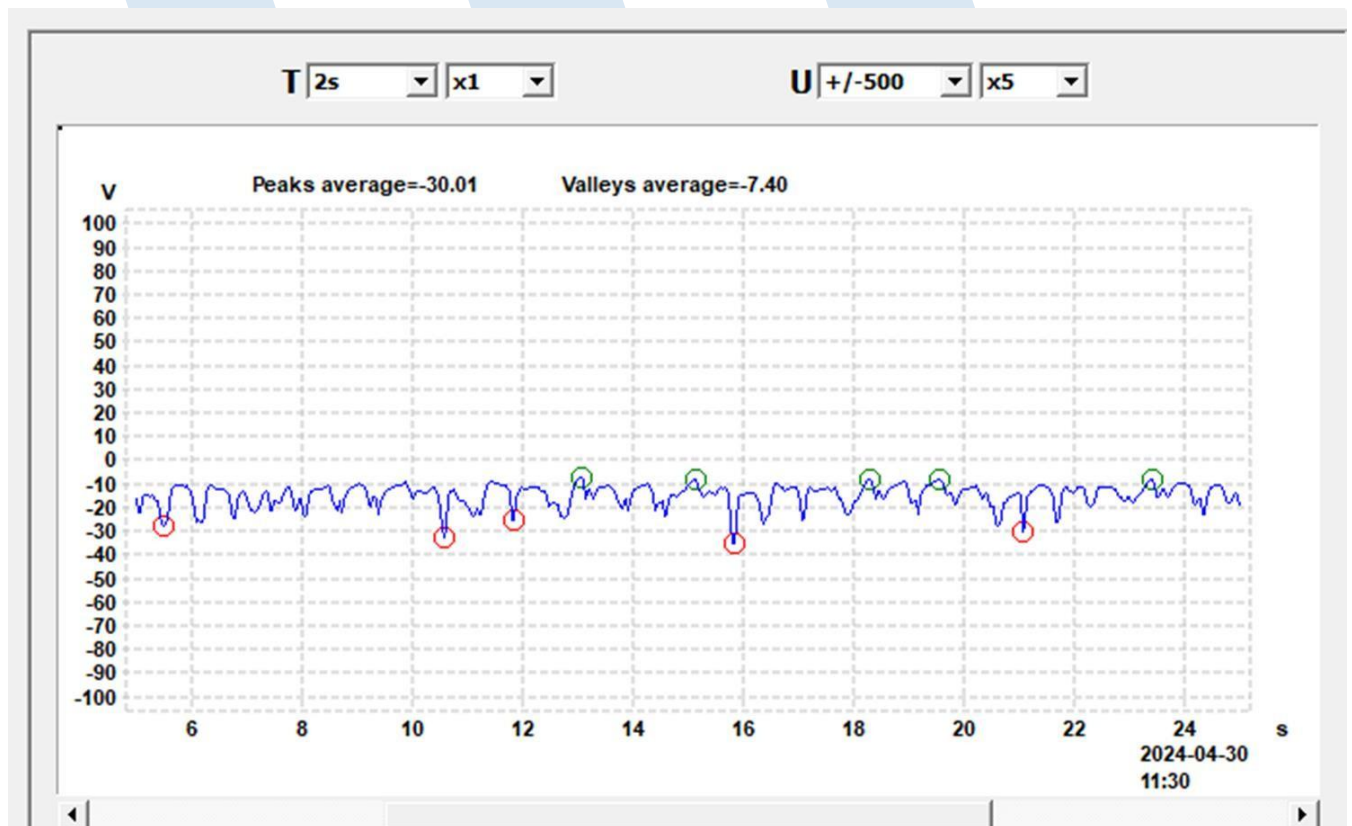
René Mijling

Sr. Consultant / expertise synthetic floors

Mobile 0628-972913

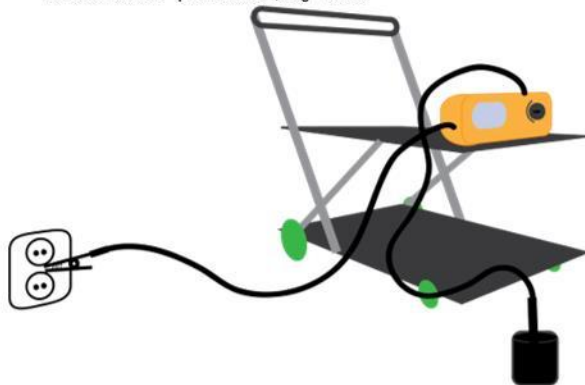
Attachments: graphs Walkingtest.
Schematic representation of measurements.
Calibration report.

Graph Walking test.

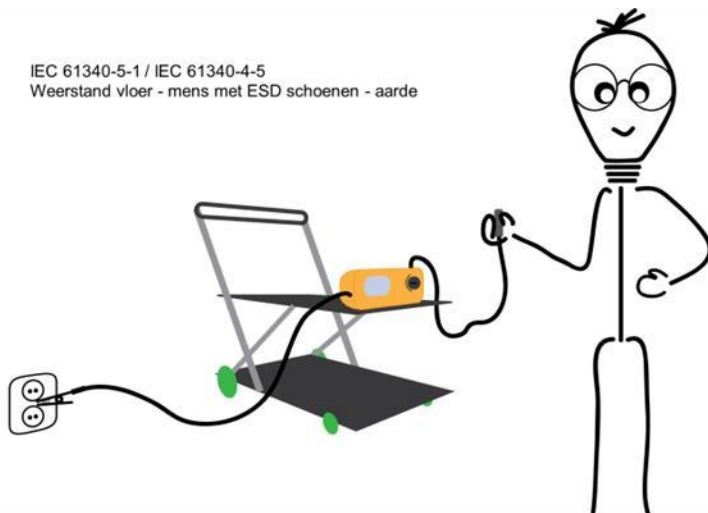


Schematic representation of measurements:

IEC 61340 -5-1/IEC 61340 -4-1
Weerstand vloer - probe circa 2,5 kg - aarde



IEC 61340-5-1 / IEC 61340-4-5
Weerstand vloer - mens met ESD schoenen - aarde



IEC 61340-5-1 / IEC 61340-4-5
Elektrostatische spanningsopbouw





TOTAL ESD SOLUTIONS
ESD CONSULTANCY, AUDITING, TRAINING & TESTING

Compliance Statement

Total ESD solutions declares that the following instrument:

Wolfgang Warmbier Metriso 3000

Of the company:

Mijtech BV, Druten (NL)

With serial nr.

ZB1552

Is in compliance with the requirements as specified in :

IEC 61340-4-5:2018
IEC 61340-4-1:2004
IEC 61340-5-1:2016

Date of issue:

December 18, 2023

Issuing party:

Total ESD solutions, represented by:

Tim Maas

ANSI certified TR53 ESD specialist

ANSI certified ESD program manager



TOTAL ESD SOLUTIONS
ESD CONSULTANCY, AUDITING, TRAINING & TESTING

Compliance Statement

Total ESD solutions declares that the following instrument:

Wolfgang Warmbier WT5000 Walking test kit

Of the company:

Mijtech BV, Druten (NL)

With serial nr.

10580419

Is in compliance with the requirements as specified in :

IEC 61340-4-5:2018
IEC 61340-5-1:2016

Date of issue:

December 18, 2023

Issuing party:

Total ESD solutions, represented by:

Tim Maas
ANSI certified TR53 ESD specialist
ANSI certified ESD program manager