

 GOD-MIN mérnöki Kft.	2800 Tatabánya - Hungary Cseresznyefa u. 60/3 Tel/Fax: 06/34 300-142 Mobil 1: 06/30 216-4583 E-mail: esd@godmin.hu	 GOD-MIN laboratory	ESD audit and measuring report Qualifier sheet		MUF_07_05_01D-5 Revízió: 05 Kiadás dátuma: 2013.10.01.
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Audit and measuring Date:	03.03.2014	Protocol No.:	20140303-1ESD_Dr. Schutz_eng
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Place of inspection:	
Measuring place:	GOD-MIN Mérnöki Kft. – GOD-MON LABORATORY - Tatabánya
Measured by:	Godó Attila / ESD expert – Drágán Tamás / ESD technician
Description of the product:	
Product description:	ESD Longlife PU Sealer (transparent or colored type)
Manufacturer (supplier) data:	Dr. Schutz – Germany (Hungary – Örkönd Kft.)

Mérési körülmények:	
Measuring Standards:	MSZ EN 61340-5-1, ANSI/ESD S20.20 (IEC 61340-4-1,4-5, ANSI S7.1, STM97.1)
ESD requirements:	Resistance: $R_g < 10^9 \Omega$, $R_{sys} < 35 \times 10^6 \Omega$ or $< 1 \times 10^9 \Omega$, $R_{pp} < 10^9 \Omega$, $U_g \text{ walking} < 100 \text{ V}$
Check voltage:	$R < 1 \times 10^5 \Omega \rightarrow 10 \text{ V}$; $R > 1 \times 10^5 \Omega \rightarrow 100 \text{ V}$
Measuring environment:	Normal
Temperature:	23,1 °C
Relativ Humidity:	53 % RH

Pump out of calibration equipment used and the period of validity:				
Equipment name:	Equipment name:	Equipment name:	Equipment name:	Equipment name:
Resistance-meter:	GIGALAB Model 9265.043 S.N.: 222016	Kvalifik Kft.	Q00717	2014.04.28.
Temperature:	Drylogger S.N.: 201802	Kalibra 59	K/23303	2014.04.28.
Humidity-meter:	Drylogger S.N.: 201802	Kalibra 59	K/23303	2014.04.28.

Other used tools:			
Tool name:	Tool name:	Tool name:	Tool name:
5 pound electrodes (S.N.: 142298, 142299)	Kvalifik Kft.	Q00717	2014.04.28.
Ring weight electrodes (S.N.: HI-104879-0105, HI-104880-0105)	Kvalifik Kft.	Q00717	2014.04.28.
Measuring cables, measuring clips	Kvalifik Kft.	Q00717	2014.04.28.

Measured by:	
Name:	Drágán Tamás (ESD technikus)
Telefon:	06 30/217-6884
Fax:	06 34/300-142
E-mail:	dragan.tamas@godmin.hu

Requestor and auditor of the measuring:	
Name:	Godó Attila (ESD szakértő)
Telefon:	06 34/300-142 (30/216-4583)
Fax:	06 34/300-142
E-mail:	godo.attila@godmin.hu

Measuring result

Code:	Conform	Non conformance	Not applicable
	S	U1 – critical U2 – major U3 – minor	N/A

Measuring results of the electrostatic protection:

N°:	Description of the product:	Remarks:	Code:	R _g (GROUNDING) Measured value Resistance - Ω		R _{sys} (SYSTEM) Measured value Resistance - Ω		R _{pp} (Point to point) Measured value Resistance - Ω	
				Expected:	Measured:	Expected:	Measured:	Expected:	Measured:
				1	Deposited on a conductive surface ESD PVC PU sealer Transparent type	3. Minta	S	R _g <10 ⁹	723x10 ³
2	Deposited on a conductive surface ESD PVC PU sealer <i>Between the original surface and the treated surface PU</i> Transparent type	3. Minta	S	-	-	-	-	R _{pp} <10 ⁹	6,16x10 ⁶
3	Deposited on a conductive surface ESD Epoxy PU sealer Transparent type	8. Minta	S	R _g <10 ⁹	140x10 ³	R _{sys1} <35x10 ⁶ R _{sys2} <1x10 ⁹	8,46x10 ⁶	R _{pp} <10 ⁹	140 x10 ³
4	Deposited on a conductive surface ESD Epoxy PU sealer <i>Between the original surface and the treated surface PU</i> Transparent type	8. Minta	S	-	-	-	-	R _{pp} <10 ⁹	105x10 ³
5	Deposited on a conductive surface ESD Epoxy PU sealer Colored type	7. Minta	S	R _g <10 ⁹	13,3x10 ⁶	R _{sys1} <35x10 ⁶ R _{sys2} <1x10 ⁹	5,31x10 ⁶	R _{pp} <10 ⁹	218x10 ⁶
6	Deposited on a conductive surface ESD Epoxy PU sealer <i>Between the original surface and the treated surface PU</i> Colored type	7. Minta	S	-	-	-	-	R _{pp} <10 ⁹	14,5x10 ⁶
7	PVC floor PU sealer coating Transparent type	6. minta	S	R _g <10 ⁹	25,4x10 ⁶	R _{sys1} <35x10 ⁶ R _{sys2} <1x10 ⁹	-	R _{pp} <10 ⁹	17,1x10 ⁶
8	PVC floor PU sealer coating Colored type	5. minta	S	R _g <10 ⁹	367x10 ⁶	R _{sys1} <35x10 ⁶ R _{sys2} <1x10 ⁹	-	R _{pp} <10 ⁹	282x10 ⁶

Inspection notes, deficiencies described:

1.	The PU sealing complies with the IEC 61340-5-1, ANSI / ESD S20.20 ESD standards requirements.	
2.	The PU sealing complies with the IEC 61340-4-1,4-5, ANSI S7.1, STM97.1 standards requirements.	
3.		

03.03.2014.

Drágán Tamás

Drágán Tamás

Godó Attila

Godó Attila

Date:

Signature of assessor

Measuring auditing signature:

The measurement of the photos taken:



Deposited on a conductive surface
ESD PVC PU sealer
Transparent type – R_{pp} – 3. Minta



Deposited on a conductive surface
ESD PVC PU sealer
Transparent type – R_g – 3. Minta



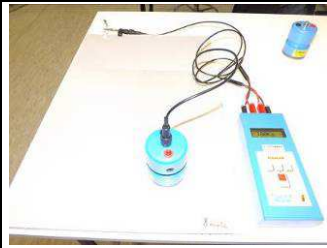
Deposited on a conductive surface ESD
PVC PU sealer
Transparent type - R_{sys} – 3. Minta



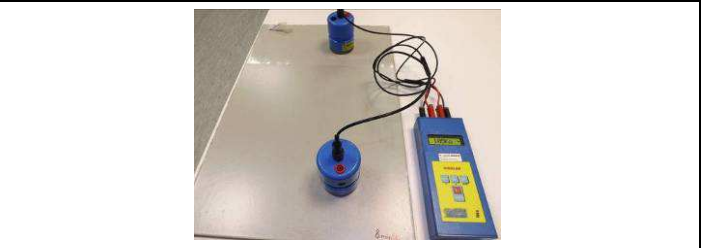
Deposited on a conductive surface
ESD PVC PU sealer
*Between the original surface and the treated
surface PU*
Transparent type – R_{pp} – 3. Minta



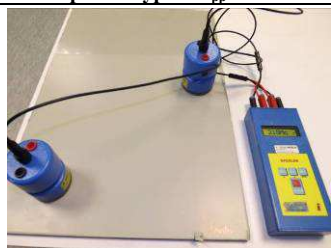
Deposited on a conductive surface
ESD Epoxy PU sealer
Transparent type – R_{pp} – 8. Minta



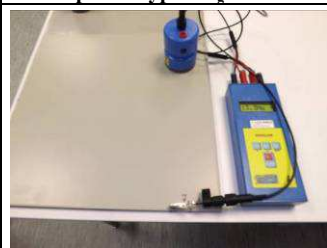
Deposited on a conductive surface
ESD Epoxy PU sealer
Transparent type – R_g – 8. Minta



Deposited on a conductive surface ESD Epoxy PU sealer
*Between the original surface and the treated
surface PU*
Transparent type – R_{pp} - 8. Minta



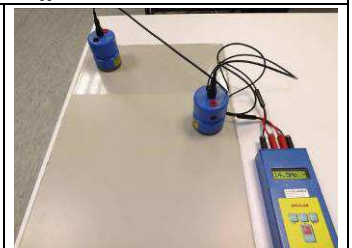
Deposited on a conductive surface
ESD Epoxy PU sealer
Colored type – R_{pp} – 7. minta



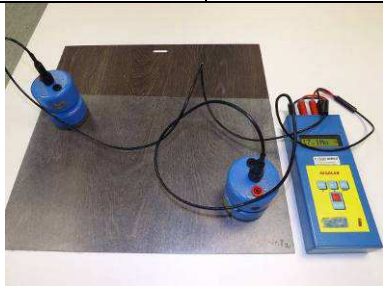
Deposited on a conductive surface
ESD Epoxy PU sealer
Colored type – R_g - 7. minta



Deposited on a conductive surface ESD
Epoxy PU sealer
Colored type - R_{sys} – 7. Minta



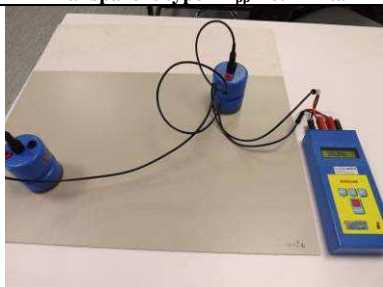
Deposited on a conductive surface
ESD Epoxy PU sealer
*Between the original surface and the treated
surface PU*
Colored type – R_{pp} - 7. minta



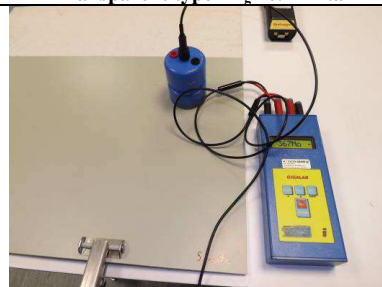
PVC floor PU sealer coating
Transparent type – R_{pp} – 6. Minta



PVC floor PU sealer coating
Transparent type – R_g - 6. Minta



PVC floor PU sealer coating
Colored type – R_{pp} – 5. Minta



PVC floor PU sealer coating
Colored type – R_g - 5. Minta



DNV BUSINESS ASSURANCE MANAGEMENT SYSTEM CERTIFICATE

Certificate No.: 146161-2013-AQ-BUD-RvA

This is to certify that

GOD-MIN Kft.

60/3, Cseresznyefa utca, Tatabánya, H-2800

has been found to conform to the Management System Standard

ISO 9001:2008

This Certificate is valid for the following product or service ranges:

Setting-up, supervising of Quality Management Systems and training for maintaining them. Planning, working out and establishing EOS/ESD, MSD systems. Training for EOS/ESD, MSD and soldering technics systems. Measurement, verification and qualifying of EOS/ESD, MSD. Auditing and certifying of EOS/ESD, MSD systems. ESD laboratory inspections.

Initial Certification date:
25th September 2012

This Certificate is valid until:
25th September 2015

The audit has been performed under the supervision of
László Adlovits
Lead Auditor



Place and date:
Budapest, 29th November 2013

for the Accredited Unit:
DET NORSKE VERITAS CERTIFICATION B.V.,
THE NETHERLANDS

János Zrupkó
Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.

Accredited Unit: Det Norske Veritas Certification B.V., Zwolsseweg 1, 2994 EB Barendrecht, The Netherlands. TEL: +31 (0) 10 2122000, www.dnv.com