

**UNIVERSITY OF MINING AND GEOLOGY
ST. IVAN RILSKI**

ExTECHNIKA

**STATE PROOF LABORATORY OF EXPLOSION
PROTECTED EQUIPMENT AND STATIC ELECTRICITY
CERTIFICATE REG. No. 10-JII (17)/02.12.20002**

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TEST PROTOCOL

No. 1192 ExT

The results of the tests refer only to the tested samples. Excerpts of the Test Protocol may not be circulated without the written consent of the testing laboratory.

Total number of sheets: 5

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Sofia

14 May 2004

STATE PROOF LABORATORY
ExTECHNIKA
1700 SOFIA, STUDENTSKI GRAD
REG. No. 10-JII (17)/02.12.20002

1. ELECTROSTATIC PROPERTIES OF FLOORING OF INERT MATERIALS;
2. **Applicant:** Single-member company, ET EVGENII ROUSSEV – CITY OF SOFIA, 131 PIROTSKA ST.;
3. **Method of testing:** BDS 6728-82, BDS 15 969-84;
4. **Date of receiving the samples for testing in the laboratory:** 13 May 2004;
5. **Quantity of the tested samples:** five;
6. **Date of conducting the test:** 14 May 2004.

Head of ExTECHNIKA: (signed illegibly)

Senior Research Associate K. Zaimov

round seal inscribed in Bulgarian in circumference “Laboratory of Explosion Protected Equipment” and, in centre, “University of Mining and Geology” and “ExTechnika”

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7. Results of the test:

7.1 Name of the indicator

Measurement of the electric resistance of flooring of inert materials.

7.2 Value unit

7.3 Method of testing the indicator; standards and validated internal laboratory methods.

Samples of flooring, made of inert materials, NIL-EK1 type, were presented for the testing of their antistatic properties.

The NIL-EK1 type flooring is a homogeneous mass of black mosaic, cement, graphite and cement-based tile adhesive compound.

It is designed for flooring of places, where a potentially explosive environment can occur.

Five samples were presented for the test.

Tests were conducted to determine the values of the volume and surface electric resistance in accordance with BDS 6728-82

The tests were carried out with teraohmmeter, E6 – 13A type, with camera and electrodes, according to the schemes, shown on figures 1 and 2.

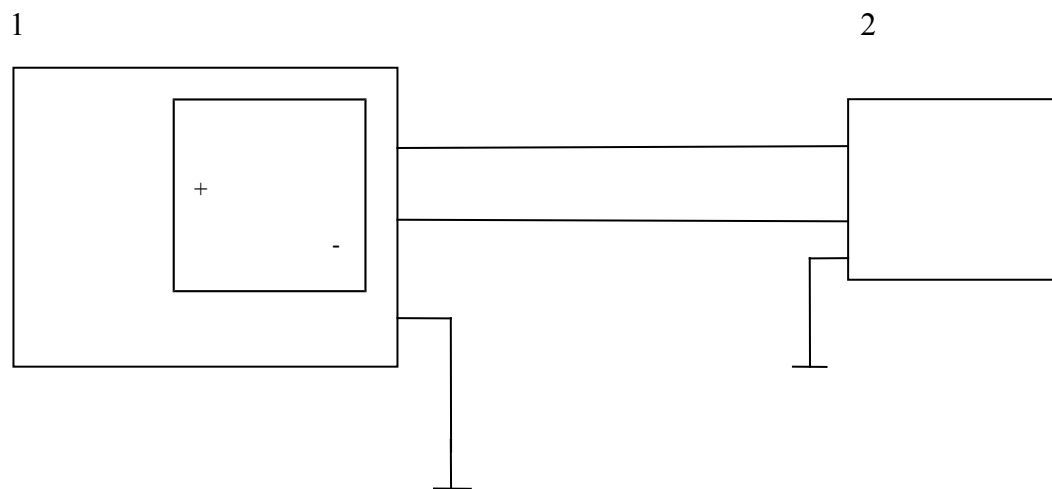


Fig. 1

1 – Teraohmmeter

2. Camera with measuring electrodes

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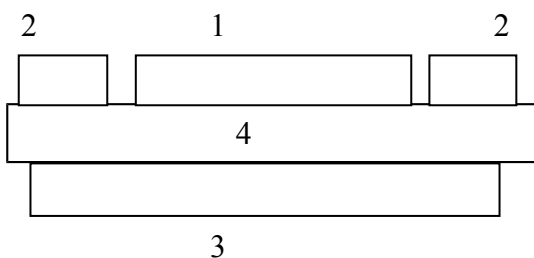


Fig. 2

Measurement of volume resistance

1. Measuring electrode
2. Protective electrode
3. Electrode for high voltage
4. Test sample

Measurement of surface resistance

1. Measuring electrode
2. Electrode for high voltage
3. Protective electrode
4. Test sample

7.4 Number of sample**7.5 Value and admissible level of the indicator; standardization and statutory documents.****7.6 Results of the test**

The values of the volume electric resistance of samples of flooring of inert materials, NIL-EK1 type, have been set at tension of 100V.

The results are pointed out in table 1.

Table 1

Number of sample	Volume electric resistance, Ω	Surface electric resistance, Ω
1.	$7.6 \cdot 10^6$	$1.5 \cdot 10^5$
2.	$8 \cdot 10^6$	$3.6 \cdot 10^5$
3.	$8.4 \cdot 10^6$	$5.3 \cdot 10^5$
4.	$9.0 \cdot 10^6$	$7.5 \cdot 10^5$
5.	$1.0 \cdot 10^7$	$1.1 \cdot 10^6$

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7.7 Interpretation of the received results

On the basis of the results from the tests and in accordance with the requirements of BDS 15 969-84, the presented samples for the testing of flooring of inert materials, NIL-EK1 type, placed on a solid ground and metal frame, is defined as antistatic.

Signature of the person having conducted the test: (signed illegibly)
eng. P. Dimitrov

Head of ExTECHNIK: (signed illegibly)
Senior Research Associate Zaimov

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