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MT

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

MT/T 690-1997

**Determination of resistance on ground and mesa conducting
statial electricity in detonator production line**

雷管生产线导静电地面、台面电阻值测定方法 清晰版

(English Translation)

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Detonator production line static conductive floor, table resistance value test methods

1 Scope

This standard specifies the measuring instruments and materials for the static-conductive floor and table resistance of the detonator production line, measurement requirements, and measurement procedures.

This standard is applicable to the measurement of the resistance of the static-conductive floor and table of the detonator production line.

2 Reference standards the following standards contain provisions that, through reference in this standard, constitute provisions of this standard. When this standard was published, the

editions shown were all is effective. All standards will be revised, and all parties using this standard should explore the possibility of using the latest versions of the following standards.

GB 4385-84 Technical requirements for anti-static shoes and conductive shoes GB 12014-89 anti-static work clothes MT 520-1995 Antistatic safety regulations for mine detonator production plant

3 Method summary

Connect the positive electrode of the megohmmeter to the measuring electrode, and the negative electrode to ground, and measure the resistance value between the measuring electrode and ground.

4 Instruments and materials

4.1 Instrument

500V megohmmeter. The measurement range is $1 \times 10^2 \text{ohm} \sim 1 \times 10^{12} \text{ohm}$, and the accuracy is $\pm 5\%$.

4.2 Materials

- a) Main electrode. chrome-plated cylindrical brass electrode. Diameter. $60\text{mm} \pm 0.01\text{mm}$, mass. 2kg (including handle), electrode bottom surface Surface roughness is $1.6 \mu\text{m}$
- b) Gasket. sponge gasket. Diameter. 60mm, thickness. 5mm ~ 6mm, $\rho = 10 \sim 10^2 \text{ohm} \cdot \text{cm}$, hardness. 40 ~ 50 Shore.

The measurement electrodes consisting of a and b are shown in the figure.

1-Handle; 2-Main electrode; 3-Shim

Figure 1 Schematic diagram of the measuring electrode

- c) Connection wire. Polyethylene sheathed multi-strand copper wire with a cross-sectional area of 1.5mm^2 . The insulation resistance of the wire should not be less than $5 \times 10^8 \text{ohm}$.

5 Test match

5.1 Measurements must be performed after production has been stopped and products and hazardous materials have been cleaned.

5.2 During the measurement, the line connection should be safe and reliable to prevent sparks during the measurement.

5.3 If there is flammable and explosive gas dust in the room, the measurement is strictly prohibited.

5.4 When measuring, an insulation board should be placed under the instrument.

5.5 Measurement in thunderstorms is strictly prohibited.

5.6 The testing personnel shall wear antistatic work clothes in accordance with GB 12014 and antistatic shoes in accordance with GB 4385.

5.7 The measurement points for each 10m² of the production room shall be not less than 5 points, and the measurement points for less than 10m² or an independent piece of floor or table shall be 5 points.

Better.

6 Measurement steps

6.1 Before the measurement, if the floor is oily, it must be removed with water or neutral detergent. The floor or work surface should be dry and clean during the measurement status.

6.2 Wet the sponge pad with water.

6.3 Choose one point on the conductive floor or work surface.

a) For non-flexible (such as FRP, etc.) conductive floor or table surface, the measurement should be placed under the main electrode wet and screwed De-watering sponge pad.

b) For conductive floors or countertops laid with flexible (such as conductive rubber sheet, etc.), no sponge can be placed under the main electrode during measurement Gasket.

6.4 Connect the "line" end button of the megohmmeter to the electrode, and the "ground" end button to the grounding net of the conductive ground, the resistance value is measured, and this value is used as the resistance value to ground at the measurement point.

7 Measurement object According to the process classification specified in Chapter 3 of MT 520, the floor and table of each process are used to measure the resistance of the measuring electrode to ground.

8 Expression of results

8.1 The data read should be retained to one digit after the decimal point.

8.2 When measuring the resistance value of several points at the same place, the highest value is the resistance value of the ground and the table within the measurement range.

9 Test report

The test report must include the following.

- a) measurement time;
- b) measured temperature and humidity conditions;
- c) using the name and model of the instrument;

- d) the location of the measurement;
- e) The measured pole-to-ground resistance.