

STATIC ELECTRICAL RESISTIVITY OF AUTOMOTIVE TUBING**Application**

This method was developed to determine the electrical resistance of automotive tubing used in fuel handling.

Materials and Apparatus Required**Ohm Meter**

Resistivity meter (MEG-CHECK 2100A R-meter from Associates Research Inc. or equivalent).

A Set Of Copper pins

Diameter approximately 0.1 mm larger than I.D. of Tubing

Conditioning and Test Conditions

All test values indicated herein are based on the material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions.

Procedure

1. Prepare a test specimen as required by the relevant Engineering Materials Specification.
2. Measure the sample length. Record as " L₀ " (mm).
3. Measure the inner diameter of the sample. Record as " d " (mm).
4. Insert the copper pins to full depth in ends of the tube assuring a tight fit. Measure the depth of the copper pin as "a" (mm). Attach the leads to the resistivity meter as shown in Figure 1.
5. Record the resistance as " R " (ohm).

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2001 09 12	Revised	Editorial – no technical change A. Cockman
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Page 1 of 2

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6. Calculate the Static Electrical Resistance as:

$$\text{Static Electrical Resistance (ohm/sq)} = \frac{R(\pi d)}{(L_o - 2a)}$$

Chemicals, materials, parts, and equipment referenced in this document must be used and handled properly. Each party is responsible for determining proper use and handling in its facilities.

Figure 1

