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Rubber, vulcanized or thermoplastic — Antistatic and conductive products — Determination of electrical resistance

Caoutchouc vulcanisé ou thermoplastique — Produits antistatiques et conducteurs — Détermination de la résistance électrique

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Foreword

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This document was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 2, *Testing and analysis*.

This fifth edition cancels and replaces the fourth edition (ISO 2878:2011), of which it constitutes a minor revision to update the normative reference in Clause 2.

Introduction

The elimination or reduction of static voltages and charges on rubber products is important in many applications. By providing suitable leakage paths the charge can be dissipated. The antistatic properties of a product are also influenced by its electrostatic charging characteristics. This document deals only with methods involving the use of leakage paths.

The addition of carbon black to a polymer in sufficient quantities causes a conductive network of carbon particles to be formed within the mixture, and materials with a wide range of electrical conductivity can be produced. The conductive network is sensitive to mechanical strain, and the electrical resistance of the material varies according to the degree of strain and the time and temperature history after straining. Antistatic properties can also be conferred on rubber materials by incorporating ionizable materials into the rubber mix.

A method for the measurement of the resistivity of specially prepared test pieces of antistatic and conductive rubber is described in ISO 1853.