



ISO 1431-1

**Rubber, vulcanized or
thermoplastic — Resistance to
ozone cracking —**

**Part 1:
Static and dynamic strain testing**

*Caoutchouc vulcanisé ou thermoplastique — Résistance au
craquelage par l'ozone —*

Partie 1: Essais sous allongement statique et dynamique

**Seventh edition
2024-07**



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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 seventh edition cancels and replaces the sixth edition (ISO 1431-1:2022), which has been technically revised.

The main changes are as follows:

- sealing edges of a test piece has been added in [7.1](#);
- [Annex D](#) has been added.

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Ozone is generally present in small amounts in the atmosphere. However, even very small amounts of ozone can cause cracking in susceptible rubbers under tensile strain, resulting in loss of strength. Hence, it is necessary to test the resistance of rubbers to exposure to ozone.

Because of the uncertainties of natural exposure, testing for ozone resistance of rubbers is normally done in the laboratory using specially designed ozone cabinets.

Great caution is necessary in attempting to relate standard test results to service performance, since the relative ozone resistance of different rubbers can vary markedly depending on the conditions, especially ozone concentration, temperature and relative humidity.^[5] In addition, tests are carried out on thin test pieces deformed in tension and the significance of attack for articles in service can be quite different owing to the effects of size and of the type and magnitude of the deformation.

Explanatory notes on the nature of ozone cracking are given in [Annex A](#).