
Rubber and plastics — Analysis of multi-peak traces obtained in determinations of tear strength and adhesion strength

Caoutchouc et plastiques — Analyse des tracés multi-pics obtenus lors des déterminations de la résistance au déchirement et de la force d'adhérence



Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 6133 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 2, *Physical and degradation tests*.

This second edition cancels and replaces the first edition (ISO 6133:1981), which has been technically revised (two additional methods, E and F, have been included).

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Rubber and plastics – Analysis of multi-peak traces obtained in determinations of tear strength and adhesion strength

1 Scope

This International Standard specifies five methods of calculating, after testing, the tear strength and adhesion strength of vulcanized rubber or fabrics coated with or adhered to rubber or plastics. The results are calculated by determining the median and range of peak values from a graphical plot of force versus time recorded during the test.

A trace for an adhesion strength test or tear strength test may show few or many force peaks, depending on the material under investigation. The choice of the method of calculation depends on the number of peaks in the trace.

The purpose of this International Standard is to obtain more uniformity in the evaluation and presentation of test results. It is applicable only, however, when specified in another International Standard, i.e. a method of test or a specification.

For other details, such as apparatus, test piece preparation, conditioning, procedure, etc., requirements given in the relevant International Standard shall apply.

NOTE 1 In certain cases the methods of analysis given may not be adequate, for example for peak values showing a trend with time. In cases where the minimum force values are of interest, it is possible to use the same methods of calculation as when determining from a range of peak values.

2 Definitions

For the purposes of this International Standard, the following definitions apply.

2.1 peak: A point at which the slope of a trace changes from positive to negative, e.g. an instantaneous maximum force.

2.2 median: If n measured values are arranged in increasing algebraic order of magnitude and numbered 1 to n , the median of these n values is:

if n is an odd number, the $[(n + 1) / 2]^{\text{th}}$ number

if n is an even number, the median lies between the $[n / 2]^{\text{th}}$ and $[n / 2 + 1]^{\text{th}}$ values and is not defined uniquely. Unless otherwise specified, it may be taken to be the arithmetic mean of these two measured values.

2.3 range: The difference between the greatest and the smallest observed values of observed force peaks.

2.4 complete trace: The section of the graphical plot of force versus time between the time at which the first peak occurs and the time at which the test is terminated.