

Physical testing of rubber —

Part A29: Determination of low-temperature characteristics — Temperature-retraction procedure (TR test)

ICS 83.060

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National foreword

This British Standard reproduces verbatim ISO 2921:1997 and implements it as the UK national standard. It supersedes BS 903-A29:1984 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/22, Physical testing of rubber, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or using the “Find” facility of the BSI Standards Electronic Catalogue.

Additional information

The temperature corresponding to 10 % and 70 % retraction, designated TR 10 and TR 70 respectively (see clause 7), are of particular practical importance. The difference between the temperature at which a vulcanizate retracts 10 % (TR10) and the temperature at which it retracts 70 % (TR70) increases as the tendency to crystallize increases. Further, TR 70 has been found to correlate with low-temperature compression set, while TR10 has been found to correlate with brittle points in vulcanizates based on polymers of similar type. For additional information, reference can be made to the paper by O.H. Smith, W.A. Hermonat, H.E. Haxo and A.W. Meyer, published in “Analytical Chemistry”, Vol.23, No.2, p.322 (1951).

In 5.4.3 and Clause 6 the term “standard temperature” is used. The term used in ISO 471 is “standard laboratory temperature” and this latter term should be inferred. In UK practice, the standard laboratory temperature is $23\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$.

In the present edition of this standard more detailed information is given than hitherto as to the most appropriate coolant to use for the particular test temperature and this is given in 4.2.

Also, in Clause 6 is used the term “specimens”. Throughout the rest of the standard the term “test piece” or “test pieces” is used, and this is the preferred term.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the ISO title page, pages ii to iv, pages 1 to 4 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

INTERNATIONAL STANDARD

**ISO
2921**

Third edition
1997-04-15

Rubber, vulcanized — Determination of low-temperature characteristics — Temperature-retraction procedure (TR test)

*Caoutchouc vulcanisé — Détermination des caractéristiques à basse
température — Méthode température-retrait (essai TR)*



Reference number

ISO 2921:1997 (E)



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