

ICS 83.060

CCS G 40



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 42279-2022

**Rubber, vulcanized or thermoplastic - Determination of tension
set under constant elongation, and of tension set, elongation
and creep under constant tensile load**

Issued on: December 30, 2022

Implemented on: April 1, 2023

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

foreword

1 Scope

2 Normative references

foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules for Standardization Documents" drafting.

This document is equivalent to ISO 2285:2019 "Determination of tensile permanent deformation and

Determination of Tensile Set, Elongation, and Creep Under Constant Tensile Load".

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

1 Scope

This document describes the determination of vulcanized or thermoplastic rubber in a relatively short period of time under constant elongation or constant load.

Various methods by which a specimen changes size during and after tensile loading.

The constant elongation test is used to determine the ability of rubber to maintain its elasticity after being stretched. Stretch rubber to specification at standard laboratory temperature

Set the strain, and maintain the strain at the same temperature or a specified higher temperature for a specified time, and then at the test temperature or standard laboratory temperature

Lower to relieve the strain.

The constant load test specifies the measurement of elongation, creep and tensile permanent deformation of rubber after being subjected to a constant load at standard laboratory temperature.

try method.

This document is applicable to the measurement of the elastic properties of rubber with a

hardness ranging from 20IRHD to 94IRHD.

The creep measurement method described in this document is not suitable for product design and evaluation of low creep materials. For such tests, you should use

ISO 8013. The test results of this test are not comparable to the ISO 8013 test results.

Note. The constant load test is mainly used to measure the vulcanization state and quality control of thin-walled products. Increase in vulcanization state or degree of cross-linking usually manifests as permanent

Deformation, creep and reduction in elongation.

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text. Among them, dated references

For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

this document.

ISO 188 Hot air accelerated aging and heat resistance test of vulcanized rubber or thermoplastic rubber (Rubber, vulcanized or thermo-

Note. GB/T 3512-2014 vulcanized rubber or thermoplastic rubber hot air accelerated aging and heat resistance test (ISO 188.2011, IDT)

ISO 8013 Determination of creep of vulcanized rubber under compression or shear (Rubber, vulcanized-Determination of

Note. GB/T 19242-2003 Determination of creep of vulcanized rubber under compression or shear (ISO 8013.1988, MOD)

Note. GB/T 25269-2010 Guidelines for Calibration of Rubber Test Equipment (ISO 18899.2004, IDT)

ISO 23529.2016 Rubber physical test methods Specimen preparation and general adjustment procedures (Rubber-General procedures

Note. GB/T 2941-2006 Rubber Physical Test Methods Specimen Preparation and Adjustment General Procedures (ISO 23529.2004, IDT)