

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 899

DETERMINATION OF TENSILE CREEP
OF PLASTICS

1st EDITION
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BRIEF HISTORY

The ISO Recommendation R 899, *Determination of tensile creep of plastics*, was drawn up by Technical Committee ISO/TC 61, *Plastics*, the Secretariat of which is held by the United States of America Standards Institute (USASI).

Work on this question by the Technical Committee began in 1961 and led, in 1963, to the adoption of a Draft ISO Recommendation.

A first Draft ISO Recommendation (No. 748) was circulated in 1964 to all the ISO Member Bodies for enquiry. The voting summary having been reviewed, it was decided to prepare a second Draft ISO Recommendation which was circulated to all the ISO Member Bodies in February 1967. This second Draft was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	India	South Africa, Rep. of
Austria	Iran	Spain
Belgium	Israel	Sweden
Canada	Italy	Switzerland
Chile	Japan	Thailand
Czechoslovakia	Netherlands	U.A.R.
Finland	New Zealand	U.S.A.
France	Poland	U.S.S.R.
Germany	Portugal	Yugoslavia
Hungary	Romania	

One Member Body opposed the approval of the Draft :

United Kingdom

The second Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in December 1968, to accept it as an ISO RECOMMENDATION.

DETERMINATION OF TENSILE CREEP OF PLASTICS

1. SCOPE

- 1.1 This ISO Recommendation describes the testing of plastics specimens in tension for long periods of time under conditions of constant temperature and humidity.
- 1.2 The test consists in applying a tensile load to the test specimen under exactly defined conditions :
- (a) measuring the elongation of the specimen in the course of time during which these conditions are acting on it, and/or
 - (b) determining the time elapsed during the action of these conditions from the start of the test to the rupture of the specimen and/or to attaining the specified value of strain.
- 1.3 Since the creep test is a time-consuming test whose results are sensitive to variations in material composition and in the effects of the environment, it is at present recommended for use where the variations in the environment can be kept under close control.
- 1.4 The mechanical behaviour of plastics in tensile creep tests is of importance in determining the resistance and stability of these materials under conditions of loads applied for long periods of time. The tensile creep test results are useful in predicting the probable dimensional changes (or occurrence of fracture) of plastics parts under these service conditions.

2. DEFINITIONS

- 2.1 *Creep*. The time-dependent strain resulting from force.

For the purposes of obtaining significant measurements by this method, tensile creep of plastics is determined at constant load, constant temperature and constant humidity, under the conditions defined in section 3.