61

INTERNATIONAL STANDARD ISO 3167

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Plastics — Preparation and use of multipurpose test specimens

Matières plastiques — Préparation et utilisation d'éprouvettes à usages multiples

First edition — 1975-05-01

UDC 678.5/.7 : 620.115.8

Ref. No. ISO 3167-1975 (E)

Descriptors : plastics, thermoplastic resins, moulding materials, tests, test specimen conditioning, test specimens.

Price based on 2 pages

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3167 was drawn up by Technical Committee ISO/TC 61, *Plastics,* and circulated to the Member Bodies in September 1973.

It has been approved by the Member Bodies of the following countries :

Austria	Germany	Romania
Belgium	Hungary	South Africa, Rep. of
Brazil	India	Spain
Bulgaria	Ireland	Sweden
Canada	Israel	Switzerland
Chile	Japan	Thailand
Czechoslovakia	Netherlands	Turkey
Egypt, Arab Rep. of	New Zealand	U.S.A.
Finland	Poland	U.S.S.R.
France	Portugal	Yugoslavia

The Member Body of the following country expressed disapproval of the document on technical grounds :

United Kingdom

Printed in Switzerland

Plastics — Preparation and use of multipurpose test specimens

1 SCOPE

This International Standard gives requirements relating to a multipurpose test specimen for plastic moulding materials.

2 FIELD OF APPLICATION

2.1 The dimensions of the ISO/R 527[1] type 1 tensile test specimen are such that with only simple machining it can be made suitable for a variety of other tests. Because it has such utility, the type 1 tensile specimen is referred to in this International Standard as a multipurpose specimen. It may be used for tests relating to the following :

a) Tensile properties (ISO/R 527)

b) Tensile creep (ISO/R 899)

c) Flexural properties (ISO 178)

d) Compressive properties (ISO 604)

e) Impact resistance (Charpy) (ISO/R 179)

f) Temperature of deflection under load (ISO/R 75)

g) Vicat softening temperature (ISO/R 306)

h) Behaviour of rigid plastics in contact with an incandescent bar (ISO 181)

i) Behaviour of plastics in the form of bars exposed to a flame (ISO 1210)

j) Environmental stress cracking (ISO . . .[2])

2.2 The principal advantage of the multipurpose test specimen is that it enables all specimens for the various tests to be made from similar mouldings. Consequently, properties measured with them are coherent as all are measured with specimens in the same state. In other words, it can be expected that test results for a given set of specimens will not vary appreciably due to unintentionally different moulding conditions. On the other hand, if desired, the influence of moulding conditions and/or different states of the specimens can be assessed without difficulty for all of the properties measured.

2.3 For quality control purposes, the multipurpose specimen may serve as a convenient source of other specimens not readily available. Furthermore, the fact that only one mould is required may be advantageous.

2.4 The use of multipurpose test specimens must be agreed between the interested parties because there may be significant differences between the multipurpose test specimens and those described in the test methods. Also, numerical results for specimens in which machined surfaces have been stressed may differ from those of similar specimens not having machined surfaces.

3 PREPARATION OF TEST SPECIMENS

3.1 Moulding

3.1.1 For the purposes of this International Standard, the multipurpose specimen is the type 1 tensile test specimen described in ISO/R 527, having a thickness of 4 ± 0,2 mm. It shall be moulded as directed by the relevant ISO specifications and methods and under the conditions defined for the particular kind of material being examined. If those conditions have not been defined, they must be agreed between the interested parties.

3.1.2 Strict control of moulding conditions is essential to ensure that all test specimens in a set are actually in the same state. Also, for injection mouldings, it may be necessary to agree on one position of the mould gate to obtain comparable test results in different laboratories. Furthermore, to aid in obtaining specimens in the same state, the requirements of ISO 2557[3] may be observed.

1) *Plastics — Determination of tensile properties.*

2) In preparation.

3) *Plastics — Amorphous thermoplastic moulding materials — Preparation of test specimens with a defined level of shrinkage.* (At present at the stage of draft.)