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Plastics — Guide to the writing of test methods

Plastiques — Guide pour la rédaction des méthodes d'essai



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The main task of technical committees is to prepare International Standards. In exceptional circumstances a technical committee may propose the publication of a Technical Report of one of the following types:

- type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;
- type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;
- type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

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Introduction

The title of this Technical Report could lead one to assume that test methods issued by different organizations are not always ideal, and that they lead to results which are doubtful or not easily comparable between laboratories.

If this observation may be considered somewhat pessimistic, it appears that many test methods include ambiguities or technical inaccuracies or propose unjustified variants for either the sampling or for one or several of the steps in the procedure or in the expression of the test result.

When such situation is observed, the operator or the supervisor must make choices. Providing the choice is consistent, the results for the operator and between operators within the laboratory, will be comparable. However, when comparisons are made between laboratories, the choice that has been made can often cast doubts on the analysis and maybe even result in its rejection.

Thus, it is important when writing test methods to try to eliminate any ambiguity and also to provide the users of the methods with sufficient information needed to obtain valuable data.

Plastics — Guide to the writing of test methods

1. SCOPE OF THIS TECHNICAL GUIDE

This is a guide devoted to test methods.

It defines the essential elements which must be present in a method and also those which shall not be included but which the operator must find in other documents, for example, the specification of the product being tested.

This guide also proposes some important definitions in the field of sampling and also in relation to the different results which are generated by the method.

2. THE RIGHT TERMS TO REMEMBER

- **Batch** : A definite quantity of product made up of elementary units of the same type and produced under conditions assumed to be constant. A batch may constitute all or part of any particular order. (Ref ISO 1886).
- **Sample** : A given number of elementary units which have been selected at random with a view to performing a test either directly on these units or on one or more specimens taken from the units. (Ref ISO 1886).
- **Elementary unit** : The smallest normally commercially available entity of a given product. (Ref ISO 1886).
- **Laboratory sample** : A certain part of one elementary unit from which one or several specimens will be selected for the analysis.

Note 1 : Such intermediate sampling is generally performed when the elementary unit cannot be easily transported to the laboratory. The procedure for preparation of such a laboratory sample shall be provided either in the test method or in the test order instructions.

Note 2 : For certain test types, it may become necessary to prepare, starting either from one elementary unit or from a sample for laboratory, one "secondary sample for laboratory" in which test specimens will be taken for the test itself. A typical case is represented by laminated plaques which are manufactured with a resin and a reinforcing material in view to measure mechanical properties.