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Irish Standard
I.S. EN ISO 175:2010

Plastics - Methods of test for the determination of the effects of immersion in liquid chemicals (ISO 175:2010)

I.S. EN ISO 175:2010

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NSAI 1 Swift Square, Northwood, Santry Dublin 9	T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie W NSAI.ie	Sales: T +353 1 857 6730 F +353 1 857 6729 W standards.ie
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English Version

Plastics - Methods of test for the determination of the effects of
immersion in liquid chemicals (ISO 175:2010)

Plastiques - Méthodes d'essai pour la détermination des
effets de l'immersion dans des produits chimiques liquides
(ISO 175:2010)

Kunststoffe - Prüfverfahren zur Bestimmung des Verhaltens
gegen flüssige Chemikalien (ISO 175:2010)

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Foreword

This document (EN ISO 175:2010) has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with Technical Committee CEN/TC 249 "Plastics" the secretariat of which is held by NBN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2011, and conflicting national standards shall be withdrawn at the latest by April 2011.

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STANDARD**

**ISO
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**Plastics — Methods of test for the
determination of the effects of immersion
in liquid chemicals**

*Plastiques — Méthodes d'essai pour la détermination des effets de
l'immersion dans des produits chimiques liquides*



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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
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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.

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ISO 175 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 6, *Ageing, chemical and environmental resistance*.

This third edition cancels and replaces the second edition (ISO 175:1999), of which it constitutes a minor revision.

Introduction

Because of their varied applications, plastics are frequently brought into contact with liquids such as chemical products, motor fuels, lubricants, etc., and, possibly, with their vapours.

Under the action of a liquid, a plastic material may be subjected to several phenomena which may occur simultaneously. On the one hand, absorption of liquid and extraction of constituents soluble in the liquid may occur. On the other hand, a chemical reaction, often resulting in a significant change in the properties of the plastic, may occur. The equilibrium swelling ratio for a crosslinked polymer in a liquid that is a solvent for the same but non-crosslinked polymer is a measure of the degree of crosslinking.

The behaviour of plastics in the presence of liquids can be determined only under arbitrarily fixed conditions aimed at making comparisons between different materials. The choice of test conditions (nature of the liquid, immersion temperature and immersion time), as well as the choice of the properties in which changes are to be measured, depends on the eventual application of the plastic under test.

It is not possible, however, to establish any direct correlation between the experimental results and the behaviour of the plastic in service. These tests do, nevertheless, permit a comparison to be made of the behaviour of different plastic materials under specified conditions, thus allowing an initial evaluation of their behaviour in relation to certain groups of liquids.

NOTE In view of its special importance, the particular case of the determination of the quantity of water absorbed is dealt with in ISO 62. ISO 175 is concerned with the effects of water only where changes in the dimensions and physical properties of the plastic occur as a result of the action of the water.

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