INTERNATIONAL STANDARD

ISO 877-3

Second edition
2018-04

Plastics — Methods of exposure to solar radiation —

Part 3: Intensified weathering using concentrated solar radiation

Plastiques — Méthodes d'exposition au rayonnement solaire —
Partie 3: Exposition intensifiée par rayonnement solaire concentré

Reference number
ISO 877-3:2018(E)

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Published in Switzerland

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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 procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

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

This second edition cancels and replaces the first edition (ISO 877-3:2009), which has been technically revised.

A list of all the parts in the ISO 877 series can be found on the ISO website.

Introduction

The International Organization for Standardization (ISO) draws attention to the fact that it is claimed that compliance with this document may involve the use of patents concerning temperature control described in 7.3

ISO takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has assured ISO that he/she is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with ISO. Information may be obtained from:

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Plastics — Methods of exposure to solar radiation —

Part 3:
Intensified weathering using concentrated solar radiation

1 Scope

This document specifies a method for exposing plastics to concentrated solar radiation using reflecting concentrators to accelerate the weathering processes. The purpose is to assess property changes produced after specified stages of such exposures. The reflecting concentrators used in these exposures are sometimes referred to as "Fresnel reflectors" because in cross-section the array of mirrors used to concentrate the solar radiation resembles the cross-section of a Fresnel lens.

General guidance concerning the scope of the ISO 877 series is given in ISO 877-1.

NOTE Additional information about solar concentrating exposures, including a partial list of standards in which they are specified, is given in the Bibliography.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 877-1, *Plastics — Methods of exposure to solar radiation — Part 1: General guidance*

ISO 877-2, *Plastics — Methods of exposure to solar radiation — Part 2: Direct weathering and exposure behind window glass*

ISO 4892-1, *Plastics — Methods of exposure to laboratory light sources — Part 1: General guidance*

ASTM G90, *Standard Practice for Performing Accelerated Outdoor Weathering of Nonmetallic Materials Using Concentrated Natural Sunlight*

ASTM G179, *Standard Specification for Metal Black Panel and White Panel Temperature Devices for Natural Weathering Tests*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

4 Principle

This document describes a method for performing accelerated weathering on plastics using intensified solar radiation. General guidance is given in ISO 877-1.