
**Plastics — Methods of exposure to
laboratory light sources —**

**Part 4:
Open-flame carbon-arc lamps**

*Plastiques — Méthodes d'exposition à des sources lumineuses de
laboratoire —*

Partie 4: Lampes à arc au carbone

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

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. www.iso.org/directives

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The committee responsible for this document is ISO/TC 61, *Plastics*, Subcommittee SC 6, *Ageing, chemical and environmental resistance*.

This third edition cancels and replaces the second edition (ISO 4892-4:2004), of which it constitutes a minor revision. It also incorporates Technical Corrigendum ISO 4892-4:2004/Corr.1:2005.

ISO 4892 consists of the following parts, under the general title *Plastics — Methods of exposure to laboratory light sources*:

- *Part 1: General guidance*
- *Part 2: Xenon-arc lamps*
- *Part 3: Fluorescent UV lamps*
- *Part 4: Open-flame carbon-arc lamps*

Plastics — Methods of exposure to laboratory light sources —

Part 4: Open-flame carbon-arc lamps

1 Scope

This part of ISO 4892 specifies methods for exposing specimens to open-flame carbon-arc lamps in the presence of moisture to reproduce the weathering effects that occur when materials are exposed in actual end-use environments in daylight or daylight filtered through window glass.

The specimens are exposed to filtered open-flame carbon-arc light under controlled environmental conditions (temperature, moisture). Various filters are described.

Specimen preparation and evaluation of the results are covered in other International Standards for specific materials.

General guidance is given in ISO 4892-1.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable to its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4582, *Plastics — Determination of changes in colour and variations in properties after exposure to daylight under glass, natural weathering or laboratory light sources*

ISO 4892-1:1999, *Plastics — Methods of exposure to laboratory light sources — Part 1: General guidance*

3 Principle

3.1 Specimens of the materials to be tested are exposed to glass-filtered open-flame carbon-arc light, to heat and to moisture continuously or in repetitive cycles.

3.2 The exposure conditions may be varied by selection of:

- a) the light filter;
- b) the type of exposure to moisture/humidity;
- c) the length of exposure to light and moisture/humidity;
- d) the temperature of the exposure;
- e) the relative lengths of the light and dark periods.

The effect of moisture is usually produced by controlling the humidity of the air or by spraying the test specimens with demineralized/deionized water or by condensation of water vapour on to the surfaces of the specimens.

3.3 The procedure may include measurements of the irradiance and radiant exposure at the surface of the specimens.