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Building and civil engineering sealants — Determination of changes in cohesion and appearance of elastic weatherproofing sealants after exposure of statically cured specimens to artificial weathering and mechanical cycling

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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).

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For an explanation of 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 59, *Buildings and civil engineering works*, Subcommittee SC 8, *sealants*.

This second edition cancels and replaces the first edition (ISO 11617:2014), which has been technically revised.

The main changes are as follows:

— this document has been updated and restructured for easier access to the relevant information.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Building and civil engineering sealants — Determination of changes in cohesion and appearance of elastic weatherproofing sealants after exposure of statically cured specimens to artificial weathering and mechanical cycling

1 Scope

This document specifies laboratory exposure procedures for determining the effects of cyclic movement and artificial weathering on cured, elastic weatherproofing joint sealants (one- or multi-component).

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 4892-1:2016, *Plastics — Methods of exposure to laboratory light sources — Part 1: General guidance*

ISO 4892-2:2013, *Plastics — Methods of exposure to laboratory light sources — Part 2: Xenon-arc lamps*

ISO 4892-3:2016, *Plastics — Methods of exposure to laboratory light sources — Part 3: Fluorescent UV lamps*

ISO 4892-4:2013, *Plastics — Methods of exposure to laboratory light sources — Part 4: Open-flame carbon-arc lamps*

ISO 6927, *Building and civil engineering sealants — Vocabulary*

CIE 085-1989, *Solar spectral irradiance*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6927 apply.

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

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

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

4 Principle

Test specimens are prepared in which the sealant to be tested adheres to two parallel support surfaces (substrates). The specimens are conditioned statically (no movement) in a controlled climate. The conditioned specimens (in their extended/compressed state) are exposed to repetitive degradation cycles of artificial weathering (light, heat and moisture) and cyclic movement under controlled environmental conditions. Within each cycle, weathering is carried out for six weeks in an artificial weathering machine. After completion of each degradation cycle (each lasting six weeks), the specimens (in their extended/compressed state) are visually examined for changes in appearance, cohesion and adhesion of the sealant beads. The rating for quantity, width and depth of cohesive cracks for a specific extension/compression value achieved along the length of the specimen as well as the depth, length and range of any very significant loss of cohesion or adhesion (defined as > 3 mm crack depth) is determined; and the general condition of the sealant is reported. The weathering and mechanical cycling exposure

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