



**International  
Standard**

**ISO 14656**

**Steel — Epoxy powder and sealing  
material for the coating of steel for  
the reinforcement of concrete**

*Acier — Poudres époxy et matériau de réparation pour le  
revêtement des armatures en acier pour béton*

**Second edition  
2026-10**

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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](http://www.iso.org/directives)).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at [www.iso.org/patents](http://www.iso.org/patents). ISO shall not be held responsible for identifying any or all such patent rights.

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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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 16, *Steels for the reinforcement and prestressing of concrete*.

This second edition cancels and replaces the first edition (ISO 14656:1999), which has been technically revised.

The main changes are as follows:

- The prescribed scope of the document (texturing surface treatment material for the preparation of fusion-bonded epoxy-coated steel bar, wire and welded fabric) has been added (see [Clause 1](#));
- The version numbers of the referenced standards have been updated (see [Clause 2](#));
- The terms and definitions related to texturing surface treatment material have been added (see [3.3](#); [3.4](#); [4.1.2](#));
- The requirements for sealing material have been modified (see [3.5](#); [4.2](#));
- The requirements for appearance and storage have been added (see [5.1](#));
- The requirements for coating thickness after curing have been modified (see [5.5.2.3](#));
- The requirements for coating flexibility have been added (see [5.6](#));
- The technical requirements for abrasion resistance of composite epoxy abrasive coatings have been added (see [5.7](#)).

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](http://www.iso.org/members.html).

# Steel — Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete

## 1 Scope

This document specifies requirements for epoxy powders and texturing surface treatment material for use in preparing fusion-bonded epoxy-coated steel reinforcing bar, wire and welded fabric. It also includes requirements for sealing material used to repair damaged areas and cut ends on reinforcing steel.

This document defines a flexible (type A) coating and a nonflexible (type B) coating. The adhesion and moisture resistance of fusion-bonded epoxy powder coatings can be enhanced by certain formulation designs. These coating enhancements typically result in a reduction of the coating's flexibility.

## 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 6272-1, *Paints and varnishes — Rapid-deformation (impact resistance) tests — Part 1: Falling weight test, large-area indenter*

ISO 6272-2, *Paints and varnishes — Rapid-deformation (impact resistance) tests — Part 2: Falling weight test, small-area indenter*

ISO 9352, *Plastics — Determination of resistance to wear by abrasive wheels*

ISO 14654, *Epoxy-coated steel for the reinforcement of concrete*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions 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/>

### 3.1 disbonding

loss of adhesion between the fusion-bonded epoxy coating and the steel reinforcing bar, wire or welded fabric

### 3.2 fusion-bonded epoxy coating

coating containing pigments, thermosetting epoxy resins, crosslinking agents and other additives, which have been applied in the form of a powder on to a clean, heated metallic substrate and fused to form a continuous barrier

### 3.3 textured coating

coating formed by cured texturing surface treatment material