



ISO 834-7

Fire-resistance tests — Elements of building construction —

Part 7:
Specific requirements for columns

*Essais de résistance au feu — Éléments de construction —
Partie 7: Exigences spécifiques relatives aux poteaux*

**Second edition
2025-07**

This is a preview of ISO 834-7:2025. [Click here to purchase the full version from the ANSI store.](#)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Test method A – Loaded columns	2
4.1 Test equipment.....	2
4.2 Test conditions.....	2
4.2.1 Restraint and boundary conditions.....	2
4.3 Loading.....	3
4.4 Test specimen preparation.....	3
4.4.1 Specimen design.....	3
4.4.2 Specimen size.....	3
4.4.3 Number of test specimens.....	3
4.4.4 Specimen conditioning.....	4
4.4.5 Specimen installation and restraint.....	4
4.5 Application of instrumentation.....	4
4.5.1 Furnace thermocouples (plate thermometer).....	4
4.5.2 Specimen thermocouples.....	4
4.5.3 Deformation measurement.....	5
4.6 Test procedure.....	5
4.6.1 Load application.....	5
4.6.2 Furnace control.....	5
4.6.3 Measurements and observations.....	5
4.7 Performance criteria.....	5
4.8 Validity of the test.....	6
4.9 Expression of results.....	6
4.10 Test report.....	6
5 Test method B – Protected steel columns tested without an applied axial load	6
5.1 Test equipment.....	6
5.2 Test conditions.....	6
5.2.1 Restraint and boundary conditions.....	6
5.3 Test specimen preparation.....	6
5.3.1 Specimen design.....	6
5.3.2 Specimen size.....	7
5.3.3 Number of test specimens.....	7
5.3.4 Specimen conditioning.....	7
5.4 Application of instrumentation.....	7
5.4.1 Furnace thermocouples (plate thermometer).....	7
5.4.2 Specimen thermocouples.....	7
5.5 Test procedure.....	8
5.5.1 Furnace control.....	8
5.5.2 Measurements and observations.....	8
5.6 Performance criteria.....	8
5.7 Validity of the test.....	9
Annex A (informative) General guidance on test methods A and B (as indicated)	10
Annex B (informative) Direct application of results – For test methods A and B	12
Bibliography	13

This is a preview of ISO 834-7:2025. [Click here to purchase the full version from the ANSI store.](#)

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).

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. ISO shall not be held responsible for identifying any or all such patent rights.

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

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 92, *Fire safety*, Subcommittee SC 2, *Fire resistance*.

This second edition cancels and replaces the first edition (ISO 834-7:2000), which has been technically revised.

The main changes are as follows:

- an alternative method of test for the protection of steel columns without an applied axial load has been added. The alternative method (non-loaded) is referred to as "Method B". The original method, which requires columns to be tested with an applied axial load, is now referred to as "Method A".

A list of all parts in the ISO 834 series can be found on the ISO website.

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.

This is a preview of ISO 834-7:2025. [Click here to purchase the full version from the ANSI store.](#)

This document contains specific requirements for fire-resistance testing which are unique to the elements of building construction described as columns. The requirements for these loadbearing elements are intended to be applied as appropriate in conjunction with the detailed and general requirements contained in ISO 834-1.