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**Elastomeric seismic-protection  
isolators —**

**Part 3:  
Applications for buildings —  
Specifications**

*Appareils d'appuis structuraux en élastomère pour protection  
sismique —*

*Partie 3: Applications pour bâtiments — Spécifications*



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# Contents

Page

<b>Foreword</b>	<b>v</b>
<b>Introduction</b>	<b>vi</b>
<b>1 Scope</b>	<b>1</b>
<b>2 Normative references</b>	<b>1</b>
<b>3 Terms and definitions</b>	<b>1</b>
<b>4 Symbols</b>	<b>3</b>
<b>5 Classification</b>	<b>6</b>
5.1 General	6
5.2 Classification by construction	7
5.3 Classification by tolerance on shear properties	8
<b>6 Requirement</b>	<b>8</b>
6.1 General	8
6.2 Type tests and routine tests	9
6.3 Functional requirements	10
6.4 Design compressive force and design shear displacement	10
6.5 Performance requirements	11
6.5.1 General	11
6.5.2 Compressive properties	12
6.5.3 Shear properties	13
6.5.4 Tensile properties	13
6.5.5 Dependencies of shear properties	14
6.5.6 Dependencies of compressive properties	15
6.5.7 Shear displacement capacity	16
6.5.8 Durability	16
6.6 Rubber material requirements	17
6.6.1 General	17
6.6.2 Tensile properties	17
6.6.3 Properties after ageing in air	17
6.6.4 Hardness	18
6.6.5 Ozone resistance	19
6.6.6 Other properties	19
6.7 Dimensional requirements	19
6.8 Requirements on steel used for flanges and reinforcing plates	20
6.9 Requirement on lead material for LRB	21
<b>7 Design rules</b>	<b>21</b>
7.1 General	21
7.2 Shape factor	21
7.2.1 First shape factor	21
7.2.2 Second shape factor	22
7.3 Compression and shear properties	22
7.3.1 Compressive stiffness	22
7.3.2 Shear stiffness and equivalent damping ratio	22
7.4 Ultimate properties	23
7.4.1 Stability at zero displacement	23
7.4.2 Stability and failure under large shear displacements	24
7.4.3 Roll-out properties of isolators with recessed or dowelled connections (Type III)	24
7.4.4 Tensile properties	25
7.5 Reinforcing steel plates	26
7.6 Connections	26
<b>8 Manufacturing tolerances</b>	<b>26</b>

8.1	General	26
8.2	Measuring instruments	27
8.3	Plan dimensions	27
8.3.1	Measurement method	27
8.3.2	Tolerances	28
8.4	Product height	28
8.4.1	Measurement method	28
8.4.2	Tolerances	29
8.5	Flatness	29
8.5.1	Measurement method	29
8.5.2	Tolerances	30
8.6	Horizontal offset	30
8.7	Plan dimensions of flanges	30
8.8	Flange thickness	31
8.9	Tolerances on positions of flange bolt holes	31
<b>9</b>	<b>Marking and labelling</b>	<b>32</b>
9.1	General	32
9.2	Information to be provided	32
9.3	Additional requirements	32
9.4	Marking and labelling examples	33
<b>10</b>	<b>Test methods</b>	<b>33</b>
<b>11</b>	<b>Quality assurance</b>	<b>33</b>
<b>Annex A</b> (normative)	<b>Tensile stress in reinforcing steel plate</b>	<b>34</b>
<b>Annex B</b> (normative)	<b>Determination of ultimate property diagram based on experimental results</b>	<b>36</b>
<b>Annex C</b> (informative)	<b>Minimum recommended physical properties of rubber material</b>	<b>39</b>
<b>Annex D</b> (informative)	<b>Effect of inner-hole diameter and second shape factor on shear properties</b>	<b>40</b>
<b>Annex E</b> (informative)	<b>Determination of compressive properties of elastomeric isolators</b>	<b>43</b>
<b>Annex F</b> (informative)	<b>Determination of shear properties of elastomeric isolators</b>	<b>46</b>
<b>Annex G</b> (informative)	<b>Method of predicting buckling limit at large deformations</b>	<b>51</b>
<b>Annex H</b> (informative)	<b>Design of fixing bolts and flanges</b>	<b>58</b>
<b>Bibliography</b>		<b>61</b>

## 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)).

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](http://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 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 45, *Rubber and rubber products*, Subcommittee SC 4, *Products (other than hoses)*.

This third edition cancels and replaces the second edition (ISO 22762-3:2010), which has been technically revised.

The main changes compared to the previous edition are as follows:

- the definitions of some symbols in [Clause 4](#) have been changed;
- a column stipulating the minimum number of test pieces has been added to [Table 4](#);
- a new subclause ([6.9](#)) has been added.

A list of all parts in the ISO 22762 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](http://www.iso.org/members.html).

## Introduction

ISO 22762 series includes two parts related to specifications for isolators, i.e. ISO 22762-2 for bridges and ISO 22762-3 for buildings. This is because the isolator requirements for bridges and buildings are quite different, although the basic concept of the two products is similar. Therefore, ISO 22762-2 and the relevant clauses in ISO 22762-1 are used when ISO 22762 (all parts) is applied to the design of bridge isolators whereas ISO 22762-3 and the relevant clauses of ISO 22762-1 are used when it is applied to building isolators.

The main differences to be noted between isolators for bridges and isolators for buildings are the following.

- a) Isolators for bridges are mainly rectangular in shape and those for buildings are circular in shape.
- b) Isolators for bridges are designed to be used for both rotation and horizontal displacement, while isolators for buildings are designed for horizontal displacement only.
- c) Isolators for bridges are designed to perform on a daily basis to accommodate length changes of bridges caused by temperature changes as well as during earthquakes, while isolators for buildings are designed to perform only during earthquakes.
- d) Isolators for bridges are designed to withstand dynamic loads caused by vehicles on a daily basis as well as earthquakes, while isolators for buildings are mainly designed to withstand dynamic loads caused by earthquakes only.

For structures other than buildings and bridges (e.g. tanks), the structural engineer uses either ISO 22762-2 or ISO 22762-3, depending on the requirements of the structure.

# Elastomeric seismic-protection isolators —

## Part 3:

## Applications for buildings — Specifications

### 1 Scope

This document specifies minimum requirements and test methods for elastomeric seismic isolators used for buildings and the rubber material used in the manufacture of such isolators.

It is applicable to elastomeric seismic isolators used to provide buildings with protection from earthquake damage. The isolators covered consist of alternate elastomeric layers and reinforcing steel plates. They are placed between a superstructure and its substructure to provide both flexibility for decoupling structural systems from ground motion, and damping capability to reduce displacement at the isolation interface and the transmission of energy from the ground into the structure at the isolation frequency.

### 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 630 (all parts), *Structural steels*

ISO 22762-1:2018, *Elastomeric seismic-protection isolators — Part 1: Test methods*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

— ISO Online browsing platform: available at <http://www.iso.org/obp/>

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

#### 3.1

##### **breaking**

rupture of *elastomeric isolator* (3.8) due to compression- (or tension-) shear loading

#### 3.2

##### **buckling**

state when *elastomeric isolators* (3.8) lose their stability under compression-shear loading

#### 3.3

##### **compressive properties of elastomeric isolator**

$K_v$

compressive stiffness for all types of rubber bearings