

INTERNATIONAL STANDARD

**ISO
9489**

First edition
1991-12-01

Thermally insulated fibre-cement piping systems

Systèmes de tuyaux en fibres-ciment isolés thermiquement



Reference number
ISO 9489:1991(E)
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Contents

Page

1	Scope	1
2	Normative references	1
3	Definitions	1
4	General composition of piping systems and their components	2
5	Characteristics and requirements	4
6	Test methods	5
7	Marking	6
8	Conformity with standards	6

Annexes

A	Receiving inspection for products which are not subject to third party certification	7
B	Third party certification	8

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International Organization for Standardization

Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 9489 was prepared by Technical Committee ISO/TC 77, *Products in fibre reinforced cement*.

Annexes A and B form an integral part of this International Standard.

Thermally insulated fibre-cement piping systems

1 Scope

This International Standard gives specifications for thermally insulated fibre-cement pipes and joints suitable for use in heat transfer systems designed to reduce heat exchange between the media transported and its environment.

The thermal insulation is situated between casing and service pipe and is made of organic or inorganic materials. Prefabrication of insulation or mounting on site is possible.

Media primarily used in such piping systems are water or steam. Other media are possible provided service pipes carrying the media are able to withstand the forces caused by temperature and hydraulic pressure, and are not chemically attacked by the media.

The temperature of the media is limited by the service pipe and the insulation material used.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 160:1980, *Asbestos-cement pressure pipes and joints*.

ISO 390:1977, *Asbestos-cement products — Sampling and inspection*.

ISO 391:1982, *Building and sanitary pipes in asbestos-cement*.

ISO 844:1978, *Cellular plastics — Compression test of rigid materials*.

ISO 845:1988, *Cellular plastics and rubbers — Determination of apparent (bulk) density*.

ISO 881:1980, *Asbestos-cement pipes, joints and fittings for sewerage and drainage*.

ISO 2785:1986, *Directives for selection of asbestos-cement pipes subject to external loads with or without internal pressure*.

ISO 4590:1981, *Cellular plastics — Determination of volume percentage of open and closed cells of rigid materials*.

ISO 8497:—¹⁾, *Thermal insulation — Determination of steady-state thermal transmission properties of thermal insulation for circular pipes*.

ISO 8873:1987, *Cellular plastics, rigid — Spray-applied polyurethane foam for thermal insulation of buildings — Specification*.

ISO 9229:1991, *Thermal insulation — Materials, products and systems — Vocabulary*.

ISO 9251:1987, *Thermal insulation — Heat transfer conditions and properties of materials — Vocabulary*.

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 9251 and ISO 9229 and the following definitions apply.

3.1 average density of foam: Average over the total thickness of the insulation layer.

1) To be published.