

International Standard



4488

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Asbestos-cement pipes and joints for thrust-boring and pipe jacking

Tuyaux et joints en amiante-ciment pour fonçage

First edition — 1979-10-15

UDC 691.328.5 : 621.643

Ref. No. ISO 4488-1979 (E)

Descriptors : asbestos cement products, pipelines, pipes (tubes), pipe joints, thrust boring, classifications, dimensions, dimensional tolerances, tests, pressure tests, crushing tests, chemical tests

Documents
Document Sharing Hub

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 4488 was developed by Technical Committee ISO/TC 77, *Products in fibre reinforced cement*, and was circulated to the member bodies in September 1977.

It has been approved by the member bodies of the following countries :

Australia	India	Spain
Austria	Iran	Sweden
Brazil	Ireland	Switzerland
Bulgaria	Italy	Turkey
Chile	Korea, Rep. of	United Kingdom
Colombia	Netherlands	USSR
Czechoslovakia	New Zealand	Venezuela
Egypt, Arab Rep. of	Portugal	Yugoslavia
Germany, F.R.	Romania	
Greece	South Africa, Rep. of	

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Belgium
France
Mexico

Contents

Page

1	Scope and field of application	1
2	References	1
3	Pipes	1
3.1	Composition	1
3.2	Classification	1
3.3	General appearance and finish	2
3.4	Characteristics	2
3.5	Tests	5
3.6	Marking	8
4	Joints	8
4.1	Materials	8
4.2	Characteristics	8
4.3	Marking	8
5	Inspection and acceptance	8
5.1	Inspection of each item of the consignment	8
5.2	Inspection by sampling	8
5.3	Certification	8
5.4	Special applications	8
Annexes		
A	Acceptance tests	9
B	Calculation of the class	10

Asbestos-cement pipes and joints for thrust-boring and pipe jacking

1 Scope and field of application

This International Standard gives specifications relating to asbestos-cement pipes and joints for thrust-boring and pipe jacking¹⁾ for applications such as

- a) ducts to protect other pipes or cables;
- b) sewerage and drainage at atmospheric pressure.²⁾

It defines certain conditions of manufacture, classification, characteristics and acceptance tests for these products.

NOTE — Asbestos-cement pressure pipes are covered by ISO 160³⁾.

Building and sanitary pipes in asbestos-cement are covered by ISO 391³⁾.

Asbestos-cement pipe fittings for building and sanitary purposes are covered by ISO 392³⁾.

Asbestos-cement pipes, joints and fittings for sewerage and drainage are covered by ISO 881³⁾.

2 References

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

ISO 2785, *Guide to the selection of asbestos-cement pipes subject to external load with or without internal pressure*.

3 Pipes

3.1 Composition

The pipes shall be made from a close and homogeneous mixture essentially consisting of a suitable inorganic hydraulic

binder,⁴⁾ asbestos fibre and water, excluding any materials liable to cause ultimate deterioration in the quality of the pipes.⁵⁾

3.2 Classification

3.2.1 Classes

The pipes are classified in two classes, as indicated in table 1, according to their permissible thrusting load.⁶⁾

Table 1 — Classification

Nominal diameter mm	Thrusting load	
	Class 1 kN	Class 2 kN
150	300	
200	400	
250	500	
300	600	
350	700	
400	800	
450	900	
500	1 000	
600	1 200	2 150
700	1 400	2 500
800	1 550	2 800
900	1 700	3 150
1 000	1 900	3 500
1 100	2 400	3 850
1 200	3 000	4 200
1 300	3 700	4 900
1 400	4 400	5 700
1 500	5 200	6 600
1 600	6 200	7 700
1 700	7 300	8 900
1 800	8 500	10 300
1 900	9 800	11 800
2 000	11 500	13 500

1) Throughout this document, the terms "thrusting" and "jacking" are to be taken as synonymous.

2) Accidental overpressures are admitted provided that a sufficient safety factor be maintained in relation to the hydraulic test pressure provided for in 3.5.3.

3) In preparation. (Revisions of ISO/R 160, ISO/R 391, ISO/R 392 and ISO/R 881.)

4) National standards may specify the binder to be used.

5) This International Standard applies both to water cured pipes and to autoclaved pipes in which the binder is partially replaced by ground silica.

6) See annex B.