



# Technical Specification

**ISO/TS 18734**

**Requirements and  
recommendations for elastic  
barriers, waterproofing and  
protection of underground concrete  
structures**

*Lignes directrices et exigences pour les membranes élastiques,  
l'étanchéité et la protection des structures en béton souterraines*

**First edition  
2026-01**

<https://standards.iteh.ai>  
[Document Preview](https://standards.iteh.ai/catalog/standards/iso/2b2759ed-08ee-45c0-bd9b-b82f693a8fd2/iso-ts-18734-2026)

[ISO/TS 18734:2026](https://standards.iteh.ai/catalog/standards/iso/2b2759ed-08ee-45c0-bd9b-b82f693a8fd2/iso-ts-18734-2026)

**iTeh Standards**  
**(<https://standards.iteh.ai>)**  
**Document Preview**

[ISO/TS 18734:2026](https://standards.iteh.ai/catalog/standards/iso/2b2759ed-08ee-45c0-bd9b-b82f693a8fd2/iso-ts-18734-2026)

<https://standards.iteh.ai/catalog/standards/iso/2b2759ed-08ee-45c0-bd9b-b82f693a8fd2/iso-ts-18734-2026>



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2026

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](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

## Contents

	Page
<b>Foreword</b>	iv
<b>Introduction</b>	v
<b>1 Scope</b>	1
<b>2 Normative references</b>	1
<b>3 Terms and definitions</b>	1
<b>4 Importance and requirements for underground concrete structure waterproofing</b>	2
4.1 Importance	2
4.2 Requirements	2
<b>5 Factors to consider for underground concrete structure waterproofing and protection</b>	3
5.1 Underground Environment Analysis of Construction Area	3
5.1.1 General	3
5.1.2 Site/Location Environment	3
5.2 Chemical Environment Effects	4
5.2.1 Chlorine	4
5.2.2 Acid, Alkali, Sulfate damage	4
5.2.3 Oil and organic compounds	4
5.2.4 Ground Gas	4
5.3 Physical environment effects	5
5.3.1 Ground water	5
5.3.2 Interaction with soil	5
5.3.3 Structural displacement and deformation	5
<b>6 Types of membranes for waterproofing and protection</b>	5
6.1 General	5
6.2 Types of materials used for waterproofing and protection	6
6.2.1 Liquid applied type	6
6.2.2 Sheet applied type	7
6.2.3 Multi (composite) layers type	8
<b>7 Performance requirements and test for waterproofing and protection</b>	8
7.1 General	8
7.2 General physical properties	8
7.3 Hydrostatic pressure resistance	9
7.4 Crack movement resistance	9
7.5 Chemical resistance	9
7.6 Bonding resistance	9
7.7 Lateral water migration resistance	9
7.8 Durability	9
<b>8 Selection procedure of optimal waterproofing and protection</b>	10
8.1 General	10
8.2 Installation method considering below ground construction method	10
8.2.1 Cut and cover	10
8.2.2 Soil retention wall	10
8.3 Service and environmental conditions	10
8.4 Structure importance and service life	10
8.5 Selection procedure	11
8.5.1 Step 1 : Construction method ( Pre applied / Post applied method )	11
8.5.2 Step 2 : Environment conditions	11
8.5.3 Step 3 : Importance and use of underground structures	11
<b>Bibliography</b>	13

## 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.

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 71, *Concrete, reinforced concrete and prestressed concrete*, Subcommittee SC 7, *Maintenance and concrete structures*.

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).

[ISO/TS 18734:2026](http://www.iso.org/iso/foreword.html)

<https://standards.iteh.ai/catalog/standards/iso/2b2759ed-08ee-45c0-bd9b-b82f693a8fd2/iso-ts-18734-2026>