
General practices for the repair of water-leakage cracks in concrete structures

*Pratiques générales pour la réparation des fissures dues à l'eau dans
les structures en béton*

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

[ISO/TR 16475:2020](https://standards.iteh.ai/catalog/standards/iso/0887a2ac-27e7-427f-9f96-d369f1f36f1a/iso-tr-16475-2020)

<https://standards.iteh.ai/catalog/standards/iso/0887a2ac-27e7-427f-9f96-d369f1f36f1a/iso-tr-16475-2020>



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

[ISO/TR 16475:2020](https://standards.iteh.ai/catalog/standards/iso/0887a2ac-27e7-427f-9f96-d369f1f36f1a/iso-tr-16475-2020)

<https://standards.iteh.ai/catalog/standards/iso/0887a2ac-27e7-427f-9f96-d369f1f36f1a/iso-tr-16475-2020>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2020

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
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	2
3 Terms and definitions	2
4 Conditions of water-leakage cracks	2
4.1 Types of water-leakage cracks	2
4.2 Environmental degradation factors that cause water-leakage cracks	3
4.2.1 General	3
4.2.2 Chemical conditions	4
4.2.3 Physical (mechanical) conditions	4
5 Expected performance for repair materials	5
5.1 General	5
5.2 Expected performance for chemical conditions	5
5.2.1 Thermal stability	5
5.2.2 Chemical resistance	5
5.3 Expected performance for physical (mechanical) conditions	5
5.3.1 Water (wash out) resistance	5
5.3.2 Adhesion on wet substrate surface	5
5.3.3 Watertightness	6
5.3.4 Response to the substrate movement	6
6 Grout materials for repair	6
6.1 General	6
6.2 Acrylic grouts (water-based acrylic gel grout)	7
6.3 Cementitious grouts (water-based mixture of cement grout)	7
6.4 Epoxy resin grout	8
6.5 Polyurethane grouts	8
6.6 Synthetic rubber polymer gel grout	8
6.7 Other materials	8
7 Appropriate repair material selection procedure	9
7.1 Selection process of repair materials (injection grouts)	9
7.2 Test for performance requirements	9
7.2.1 General	9
7.2.2 Test for thermal stability	10
7.2.3 Test for chemical resistance	10
7.2.4 Test for water flow (wash out) resistance	10
7.2.5 Test for adhesion on wet substrate surface	10
7.2.6 Test for watertightness	11
7.2.7 Test for response to the substrate movement	11
8 Execution of different types of repair methods	11
8.1 General	11
8.2 Grouting injection methods	11
8.3 Injection method for reforming a waterproofing layer	12
9 Performance assessments of repaired structures	13
9.1 Inspection of repairs	13
9.2 Evaluation of repairs	13
10 Data collection (reference material)	14
Bibliography	15

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).

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).

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 71, *Concrete, reinforced concrete and pre-stressed concrete*, Subcommittee SC 7, *Maintenance and repair of 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.

<https://standards.iteh.ai/catalog/standards/iso/0887a2ac-27e7-427f-9f96-d369f1f36f1a/iso-tr-16475-2020>