

ISO ~~/TC 156 N7740~~

~~ISO~~ /DPAS 5929

~~Date : 2025-02-24~~

~~Committee identification: ISO/TC\_156/~~AWG 15

Secretariat:-SAC

Date: 2025-04-22

**Corrosion of metals and alloys – ~~—~~ Test and evaluation method for the corrosion of steel bar embedded in concrete structure exposed to total corrosion zones in marine environments**

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

~~DPAS~~ stage ~~ISO/DPAS 5929~~

<https://standards.itih.ai/catalog/standards/iso/5929/098-eb73-45a3-8672/17aeb230d21f/iso-dpas-5929>

**Warning for WDs and CDs**

This document is not an ISO International Standard. It is distributed for review and comment. It is subject to change without notice and may not be referred to as an International Standard.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

To help you, this guide on writing standards was produced by the ISO/TMB and is available at <https://www.iso.org/iso/how-to-write-standards.pdf>

A model manuscript of a draft International Standard (known as “The Rice Model”) is available at <https://www.iso.org/iso/model-document-rice-model.pdf>

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

ISO/DPAS 5929

<https://standards.iteh.ai/catalog/standards/iso/c7f37098-eb73-45a3-8672-17aeb230d21f/iso-dpas-5929>

**ISO/DPAS 5929:(en)**

© ISO 2025

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

Published in Switzerland

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

ISO/DPAS 5929

<https://standards.itih.ai/catalog/standards/iso/c7f37098-eb73-45a3-8672-17aeb230d21f/iso-dpas-5929>

## Contents

Foreword.....	vi
Introduction.....	vii
1 Scope.....	1
2 Normative references .....	1
3 Terms and definitions.....	1
4 Apparatus.....	2
4.1 Simulated marine environmental chamber.....	2
4.2 Environmental parameter control chamber .....	2
4.3 Atmospheric zone: Spraying device.....	2
4.4 Splash zone: Splashing device .....	3
4.5 Tidal zone: Tidal device.....	3
4.6 Immersion zone .....	4
4.7 Buried zone .....	4
5 Test materials.....	5
5.1 Steel bar.....	5
5.2 Concrete.....	5
5.3 Industrial salt .....	6
5.4 Water.....	6
5.5 Chloride concentration and salt solution temperature .....	6
6 Preparation of specimens.....	6
6.1 Rust removal of steel bar .....	6
6.2 Making concrete specimens.....	6
7 Test procedure .....	8
7.1 Specimen placement.....	8
7.2 Maintenance.....	9
8 Measurement.....	9
8.1 Initial performance measurement.....	9
8.2 Periodic measurement .....	10
9 Results.....	11
10 Evaluation .....	12
11 Test report.....	12
Annex A (informative) Example of test apparatus.....	14
Annex B (informative) Example of test results.....	31

Foreword.....	v
Introduction.....	vi
1 Scope (mandatory).....	1
2 Normative references (mandatory).....	1
3 Terms and definitions (mandatory).....	1
3.1 simulated marine environmental chamber.....	2
3.2 environmental parameter control chamber.....	2
4 Apparatus.....	2

4.1	Simulated marine environmental chamber	2
4.2	Environmental parameter control chamber	2
4.3	Atmospheric zone: Spraying device	2
4.4	Splash zone: Splashing device	3
4.5	Tidal zone: Tidal device	3
4.6	Immersion zone	3
4.7	Buried zone	3
5	Test materials	4
5.1	Steel bar	4
5.2	Concrete	4
5.3	Industrial salt	5
5.4	Water	5
5.5	Chloride concentration and salt solution temperature	5
6	Preparation of specimens	5
6.1	Rust removal of steel bar	5
6.2	Making concrete specimens	5
7	Test procedure	6
7.1	Specimen placement	6
7.2	Maintenance	6
8	Measurement	6
8.1	Initial performance measurement	6
8.1.1	Mechanical properties and chemical compositions of steel bars	6
8.1.2	Dimensions	6
8.1.3	3D scan model	7
8.1.4	Mass	7
8.1.5	Concrete strength	7
8.1.6	Chlorine ion concentration	7
8.2	Periodic measurement	7
8.2.1	General	7
8.2.2	Measurement time	7
8.2.3	Mechanical properties and chemical compositions of steel bars	8
8.2.4	Dimensions	8
8.2.5	3D scan measurement	8
8.2.6	Mass	8
8.2.7	Chlorine ion concentration	8
9	Results	8
10	Evaluation	9
11	Test report	9
Annex A (informative)	Example of test apparatus	11
Annex B (informative)	Example of test results	19

## 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 document 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 -156, ~~Corrosion of metals and alloys~~.

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).

Field Code Changed