
**Thermal spraying — Zinc, aluminium
and their alloys —**

**Part 1:
Design considerations and quality
requirements for corrosion
protection systems**

*Projection thermique — Zinc, aluminium et alliages de ces métaux —
Partie 1: Considérations de conception et exigences de qualité pour les
systèmes de protection contre la corrosion*

ISO 2063-1:2019

<https://standards.iteh.ai/catalog/standards/iso/78603482-8496-4fd3-bcb4-20ab93033fe0/iso-2063-1-2019>



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

ISO 2063-1:2019

<https://standards.iteh.ai/catalog/standards/iso/78603482-8496-4fd3-bcb4-20ab93033fe0/iso-2063-1-2019>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2019

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	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Criteria for corrosion and corrosion protection by thermal-sprayed coatings	3
4.1 General	3
4.2 Corrosivity categories and environment conditions	3
4.3 Corrosion rate	3
4.4 Coating materials and corrosion behaviour	3
4.4.1 General	3
4.4.2 Zinc and zinc alloys	4
4.4.3 Aluminium and aluminium alloys	4
5 Requirements for the corrosion protection systems and their planning	4
5.1 General rules — Technical requirements	4
5.2 Used spray materials and coating thickness	5
5.2.1 Spray materials	5
5.2.2 Coating thickness	5
5.3 Construction design requirements for iron and steel components for thermal spraying	6
5.3.1 General	6
5.3.2 Recommendations for the design of the part — Avoidance of corrosion creating areas	6
5.3.3 Requirements for welding in combination with thermal-sprayed protective coatings	6
5.3.4 Thermal spraying of corrosion protected fastenings	6
6 Pre-conditions and requirements for the manufacturing process	6
6.1 General — Requirements	6
6.2 Reference areas	6
6.3 Preparation of the surface to be coated	7
6.4 Thermal spraying	7
6.5 Sealing of thermal-sprayed coatings	7
6.6 Metallic coatings and additional organic top coatings	8
6.7 Requirements for the tests — Test procedures	8
6.7.1 General	8
6.7.2 Visual inspection — Appearance	8
6.7.3 Coating thickness	8
6.7.4 Adhesion strength	9
6.7.5 Metallographic investigation	9
7 Requirements for the manufacturer	9
7.1 General	9
7.2 Coating specification — Requirements for the spray coating	10
8 Documentation	10
Annex A (informative) Corrosivity categories — Environment conditions — Exposure	11
Annex B (informative) Summary of the corrosion behaviour of thermal-sprayed coatings of zinc, aluminium and their alloys	13
Annex C (informative) Recommended values for the thickness of the metallic coating	15
Annex D (informative) Examples of design and explanations	17
Annex E (informative) Example test certificate for work specimen for thermal sprayer used on-site in accordance with ISO 2063-2	22

Annex F (informative) Appearance of surfaces in different treated conditions	24
Annex G (informative) Checklist for this document — Work and test steps and connection to relevant standards or recommendations	25
Bibliography	27

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

[ISO 2063-1:2019](https://standards.iteh.ai/catalog/standards/iso/78603482-8496-4fd3-bcb4-20ab93033fe0/iso-2063-1-2019)

<https://standards.iteh.ai/catalog/standards/iso/78603482-8496-4fd3-bcb4-20ab93033fe0/iso-2063-1-2019>

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 107, *Metallic and other inorganic coatings*.

This second edition cancels and replaces the first edition (ISO 2063-1:2017), of which it constitutes a minor revision.

The changes compared to the previous edition are as follows:

- [Table C.1](#) has been corrected;
- citations for [Annex E](#), [Annex F](#) and [Annex G](#) have been added in the text.

A list of all the parts in the ISO 2063 series can be found on the ISO website.

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.