This is a preview of "ISO 9717:2017". Click here to purchase the full version from the ANSI store.

Third edition
2017-09

Metallic and other inorganic coatings — Phosphate conversion coating of metals

Revêtements métalliques et autres revêtements inorganiques — Couches de conversion au phosphate sur métaux

Reference number
ISO 9717:2017(E)

© ISO 2017

This is a preview of "ISO 9717:2017". Click here to purchase the full version from the ANSI store.



COPYRIGHT PROTECTED DOCUMENT

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, 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
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

© ISO 2017 – All rights reserved

This is a preview of "ISO 9717:2017". Click here to purchase the full version from the ANSI store.

Contents

Page

Foreword ..... **iv**

Introduction ..... **v**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Information to be supplied by the purchaser to the processor **1**

5 Coating types and their importance **2**
5.1 Coating types 2
5.2 Designation of conversion coating 2

6 Requirements **3**
6.1 Appearance 3
6.2 Coating mass per unit area 3
6.3 Post treatments 3
6.4 Correlation of coating thickness and area-related mass 4

7 Heat treatment **4**

Annex A (normative) **Determination of phosphate conversion coating resistance to neutral salt spray test** **5**

Annex B (informative) **General information** **8**

Annex C (informative) **Identification of phosphate conversion coating** **11**

Bibliography **13**

© ISO 2017 – All rights reserved

This is a preview of "ISO 9717:2017". Click here to purchase the full version from the ANSI store.

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 on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 107, *Metallic and other inorganic coatings*, Subcommittee SC 8, *Chemical conversion coatings*.

This third edition cancels and replaces the second edition (ISO 9717:2010), which has been technically revised. The following changes have been made:

— the Scope has been clarified;

— the Normative references have been updated;

— the Terms and definitions have been replaced by a reference to ISO 2080;

— Clause 4 has been revised;

— the terms in Clause 5 have been revised;

— requirements for the phosphate layer have been revised;

— statements on corrosion resistance have been shifted to a new Annex A;

— Annex B on salt spray testing has been revised;

— Annex C to the properties of the phosphate layers has been revised.

 © ISO 2017 – All rights reserved

This is a preview of "ISO 9717:2017". Click here to purchase the full version from the ANSI store.

Introduction

Phosphate conversion coatings are applied to ferrous metals, aluminium, zinc and their alloys (including zinc- and zinc-alloy-plated steel, cadmium and their alloys) either as an end finish or as an intermediate layer for other coatings. They are intended to

— impart corrosion resistance,

— improve adhesion to paints and other organic finishes,

— facilitate cold-forming operations, such as wire drawing, tube drawing and extrusion, and

— modify surface frictional properties so as to facilitate sliding.

Phosphate conversion coatings are produced by treatment with solutions, the main constituents of which are the appropriate dihydrogen orthophosphates. These coatings are applied principally to ferrous materials and zinc, and differ in coating mass per unit area and apparent density, depending on

— the construction material and surface condition of the components,

— previous mechanical and chemical treatment of the components, and

— processing conditions for phosphating.

All phosphate conversion coatings are more or less porous but can be sealed substantially by subsequent sealant processes.

© ISO 2017 – All rights reserved