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International

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Metallic and other inorganic coatings — Phosphate conversion coating of metals

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

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Foreword ... **iv**

Introduction ... **vi**

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 phosphate conversion coating ... 2
5.3 Example for designation of phosphate conversion coating ... 3

6 Requirements ... **3**
6.1 Appearance ... 3
6.2 Coating mass per unit area ... 3
6.3 Post treatment ... 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**

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This fourth edition cancels and replaces the third edition (ISO 9717:2017), which has been technically revised.

The main changes are as follows:

— the introduction has been clarified (1 bracket shifted);

— 5.1 Table 1 formatted and for Znph second line added to describe types of Znph; new Table 1 copied on Table C.1

— 5.2 and ff.: all terms are uniformed from “phosphate coating” or “conversion coating” to “phosphate conversion coating” (when applicable);

— 5.2 and ff.: “after-treatment” was changed to “post treatment”; other definitions and spelling changed according to ISO 2080;

— 6.3 Table 2: definition of T1 recharged, second sentence deleted (this is content of T2);

— 6.3: last sentence updated to describe impact of neutral salt spray test;

— 6.4: revision of 6.4, thickness measurement replaced by area related mass;

— Annex B: last sentence of B.1 deleted: Table B.1 updated;

— Annex B: Table B.1 and B.3 headlines updated;

— Annex B: Table B.4 headline updated;

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Phosphate conversion coatings are produced by treating substrates with appropriate solutions. The main constituents of these solutions are the appropriate dihydrogen orthophosphates.

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 to facilitate sliding.

Phosphate conversion coatings are produced by treatment with solutions, the main constituents of which are the appropriate dihydrogen orthophosphates. These phosphate conversion 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 crystalline and porous but can be sealed substantially by subsequent sealant processes.

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