



**NATIONAL STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA**

**GB/T 11376-2020**

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**Metallic and other inorganic coatings--Phosphate conversion  
coating of metals**

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## Foreword

This Standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This Standard replaces GB/T 11376-1997 Phosphate conversion coatings for metals.

Compared with GB/T 11376-1997, the major changes of this Standard are as follows.

- MODIFY "Normative references" (see Chapter 2; Chapter 2 of the 1997 edition);
- ADD terms and definitions (see Chapter 3);
- MODIFY "Information to be supplied by the purchaser to the processor" (see Chapter 4; Chapter 3 of the 1997 edition);
- MODIFY "Phosphate conversion coating types and designation" (see Chapter 5; Chapter 4 of the 1997 edition);
- MODIFY "Phosphate conversion coating" (see Chapter 6; Chapter 6 of the 1997

edition);

- MODIFY the appendixes;

- ADD "References".

This Standard uses the redrafting method to modify and adopt ISO 9717.2017 Metallic and other inorganic coatings - Phosphate conversion coating of metals.

The technical differences between this Standard and ISO 9717.2017 and the reasons are as follows.

- With regard to the normative references, this Standard makes technical adjustments to adapt to the technical conditions of China. The adjustments are concentrated in Chapter 2 "Normative references", and the specific adjustments are as follows.

- \* Use GB/T 3138 which is equivalent to the international standard to replace ISO

### **2080 (see Chapter 3);**

- \* Use GB/T 4955 which is equivalent to the international standard to replace ISO

### **2177 (see 6.4);**

- \* Use GB/T 4956 which is equivalent to the international standard to replace ISO

### **2178 (see 6.4);**

- \* Use GB/T 9792 which modifies and adopts the international standard to replace ISO 3892 (see 6.2);

- \* Use GB/T 10125 which is equivalent to the international standard to replace ISO

### **9227 (see 6.3);**

- \* Use GB/T 12609 which is equivalent to the international standard to replace ISO

### **4519 (see Chapter 4);**

- \* Use GB/T 16921 which is equivalent to the international standard to replace ISO

### **3497 (see 6.4).**

This Standard makes the following editorial changes.

- ADJUST the numbers of Appendix A, Appendix B, and Appendix C according to the order mentioned in the standard text.

This Standard was proposed by China Machinery Industry Federation.

This Standard shall be under the jurisdiction of National Technical Committee on Metallic and Non-metallic Coating of Standardization Administration of China (SAC/TC 57).

Drafting organizations of this Standard. Wuhan Research Institute of Materials Protection, Wuhan Material Protection Surface New Materials Co., Ltd., Zhaoqing University, Cwb Automotive Electronics Co., Ltd., Wenzhou Ruiming Industrial Co., Ltd., Foshan Kefu Technology Co., Ltd.

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The previous version - replaced by this Standard - of the standard is.

- GB/T 11376-1989, GB/T 11376-1997.

## 1 Scope

This Standard specifies methods for determining the requirements for phosphate conversion coating.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in GB/T 3138 apply. ISO and IEC maintain terminological databases for use in standardization at the following addresses.

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

The following information shall be provided by the purchaser.

#### **5 Phosphate conversion coating types and designation**

The designation of the phosphate conversion coating shall consist of the following information.

#### **6 Phosphate conversion coating**

The coating mass is measured in accordance with the procedures specified in GB/T 9792.

The thickness of phosphate conversion coating can be measured according to the following methods.

#### **7 Heat treatment**

Heat treatment after the phosphating is not recommended, because the phosphate layer will be damaged at a temperature higher than 120 °C.

Appendix A

(Informative)

General information

Phosphate conversion coatings are produced by treatment with solutions, the main constituents of which are specified in Table A.1.

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