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Zinc coatings — Guidelines and recommendations for the protection against corrosion of iron and steel in structures —

Part 3: Sherardizing

Revêtements de zinc — Lignes directrices et recommandations pour la protection contre la corrosion du fer et de l'acier dans les constructions —

Partie 3: Shérardisation



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Contents

| | Page |
|--|-----------|
| Foreword | iv |
| Introduction | v |
| 1 Scope | 1 |
| 2 Normative references | 1 |
| 3 Terms and definitions | 1 |
| 4 Design for sherardizing | 2 |
| 4.1 General..... | 2 |
| 4.2 Surface preparation..... | 2 |
| 4.3 Design considerations..... | 3 |
| 4.4 Clearances of threaded components..... | 3 |
| 5 Storage and transport | 4 |
| 5.1 General..... | 4 |
| 5.2 Recommendations for storage and transport..... | 4 |
| 6 Effects of article condition on quality of sherardizing | 4 |
| 6.1 Composition..... | 4 |
| 6.2 Surface condition..... | 4 |
| 6.3 Influence of steel surface roughness on the sherardized coating thickness..... | 5 |
| 6.4 Internal stresses in the base material..... | 5 |
| 6.4.1 General..... | 5 |
| 6.4.2 Distortion cracking..... | 5 |
| 6.4.3 Hydrogen embrittlement..... | 6 |
| 6.5 Large objects and thick steels..... | 6 |
| 7 Effect of sherardizing process on the article | 6 |
| 7.1 Processing circumstances..... | 6 |
| 7.2 Coating properties influenced by the sherardizing process..... | 6 |
| 7.2.1 Sherardizing practice..... | 6 |
| 7.2.2 Surface properties of the finished article..... | 6 |
| 8 After-treatments | 7 |
| Bibliography | 8 |

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).

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This document was prepared by Technical Committee ISO/TC 107, *Metallic and other inorganic coatings*, Subcommittee SC 4, *Hot dip coatings (galvanized, etc.)*.

This second edition cancels and replaces the first edition (ISO 14713-3:2009), of which it constitutes a minor revision following the publication of ISO 17668 with the following changes:

- ISO 17668 has replaced EN 13811;
- [Table 1](#) has been amended to align coating classes with ISO 17668.

A list of all parts in the ISO 14713 series can be found on the ISO website.

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Introduction

Sherardizing is a thermal diffusion process in which articles are heated in the presence of a sherardizing mixture consisting of zinc dust with or without an inert material.

The process is carried out in a slowly rotating closed container at temperatures ranging from about 300 °C to 500 °C. The normal processing temperature is below the melting point of zinc (419 °C).

During the process, zinc/iron alloys are built up on the surface of the ferrous articles. A coating thickness of 10 µm to 75 µm (and higher if required) can be achieved. The coating thickness is accurately controlled by the amount of zinc dust, the processing time and temperature. The coating closely follows the contours of the basis material, and uniform coatings are produced on articles, including those of irregular shape.

After sherardizing, the containers are cooled down. A screening process separates the sherardized articles from the unused sherardizing mixture. The articles, with the zinc/iron-alloyed layer, are normally post-treated by phosphating, chromating or another suitable passivation process (conversion coating) resulting in a dust-free and clean passivated surface.

Most steel and iron articles can be sherardized.