

DIN 55633-2:2023-03 (E)

Paints and varnishes - Corrosion protection of steel structures by powder coating systems - Part 2: Assessment of epoxy cathaphoretic and powder coating systems and execution of coating

Contents

Page

| | |
|---|----|
| Foreword | 4 |
| Introduction | 5 |
| 1 Scope | 6 |
| 2 Normative references | 6 |
| 3 Terms and definitions..... | 7 |
| 4 Corrosivity categories..... | 9 |
| 5 Corrosion protection systems..... | 11 |
| 5.1 General | 11 |
| 5.2 Coating materials — piece work coating..... | 11 |
| 5.2.1 Epoxy CDC coating materials..... | 11 |
| 5.2.2 Powder coating materials..... | 11 |
| 5.3 Durability..... | 12 |
| 5.4 Requirements | 13 |
| 5.4.1 Coating materials | 13 |
| 5.4.2 Surface preparation and surface pre-treatment of unalloyed or low-alloy steel..... | 13 |
| 5.4.3 Execution of coating | 13 |
| 5.4.4 Film thickness of coating systems for piece work coatings..... | 13 |
| 6 Corrosion protection design of the components..... | 14 |
| 7 Packaging, transport, storage and assembly of components..... | 14 |
| 8 Subsequent processing of coated components..... | 14 |
| 9 Testing for quality assurance | 14 |
| 9.1 General | 14 |
| 9.2 Test pieces | 15 |
| 9.3 Corrosion tests | 15 |
| 9.3.1 General | 15 |
| 9.3.2 Coating thickness | 15 |
| 9.3.3 Condensation test..... | 15 |
| 9.3.4 Salt spray test | 16 |
| 9.3.5 Cross-cut test | 17 |
| 10 Marking of the corrosion protection system..... | 17 |
| Annex A (informative) Examples of corrosion protection systems with assignment to corrosivity categories | 21 |
| Bibliography | 23 |

Figures

| | |
|--|----|
| Figure 1 — Salt spray test piece | 17 |
|--|----|

Tables

| | |
|---|----|
| Table 1 — Categories of corrosivity of the atmosphere and examples of typical environmental conditions..... | 10 |
| Table 2 — Typical binding agents for powder coatings | 11 |
| Table 3 — Test times for atmospheric corrosivity categories | 16 |
| Table 4 — Testing the coating system applied to unalloyed or low-alloy steel..... | 18 |
| Table 5 — Assessment of artificial ageing for the specified duration..... | 20 |
| Table A.1 — Examples of epoxy CDC coating systems and powder coating systems (piece work coating) on unalloyed steel or low-alloy steel..... | 22 |