

DIN 50962:2020-02 (E)

Electrodeposited coatings - Chromated coatings of zinc and zinc alloys on iron and steel

Contents	Page
Foreword	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions.....	6
4 Designation	7
5 Service condition numbers	7
6 Ordering details.....	8
7 Material and surface condition.....	8
8 Coatings	9
8.1 General	9
8.1.1 Surface quality and coating adhesion.....	9
8.1.2 Zinc-nickel alloy coatings	9
8.1.3 Zinc-iron alloy coatings.....	9
8.2 Chromate conversion coatings.....	9
8.2.1 General	9
8.2.2 Process groups and post-treatment.....	10
8.3 Heat treatment.....	11
9 Testing of coatings	11
9.1 Coating thickness	11
9.1.1 General	11
9.1.2 Thickness measurement.....	11
9.2 Alloy content.....	12
9.3 Adhesion	12
9.4 Corrosion resistance	12
9.4.1 General	12
9.4.2 Testing procedure and evaluation.....	13
9.4.3 Minimum corrosion resistance achieved by post-treated zinc and zinc-alloy coatings.....	13
10 Test report.....	18
10.1 General information	18
10.2 Special information when coating high-strength materials with a tensile strength ≥ 1 000 N/mm ²	18
10.3 Test results.....	18
Annex A (informative) Effects of heat exposure on chromated zinc and zinc-alloy coatings.....	19
Bibliography	21

Tables

Table 1 — Service condition numbers for chromated zinc and zinc-alloy coatings (as in DIN EN ISO 27830).....	8
Table 2 — Shades of chromate conversion coatings on zinc coatings	10
Table 3 — Shades of chromate conversion coatings on zinc alloy coatings.....	11
Table 4 — Other additional treatments.....	11
Table 5 — Minimum local coating thicknesses and corrosion resistance time of chromated zinc coatings subjected to the NSS test (rating number 10/10 as in DIN EN ISO 10289:2001-04)	14
Table 6 — Minimum local coating thicknesses and corrosion resistance time of untreated zinc coatings (rating number 10/10 as in DIN EN ISO 10289:2001-04)	15
Table 7 — Minimum local coating thicknesses and corrosion resistance time of chromated zinc coatings subjected to Test DIN 50018-AHT 2,0 S (rating number 10/10 as in DIN EN ISO 10289:2001-04)	15
Table 8 — Minimum corrosion resistance time of chromate conversion coatings on zinc coatings subjected to the NSS test (rating number 10/10 as in DIN EN ISO 10289:2001-04).....	16
Table 9 — Minimum local coating thicknesses and corrosion resistance time of chromated zinc alloy coatings subjected to the NSS test (rating number 10/10 as in DIN EN ISO 10289:2001-04)	16
Table 10 — Minimum local coating thicknesses and corrosion resistance time of chromated zinc alloy coatings subjected to Test DIN 50018-AHT 2,0 S (rating number 10/10 as in DIN EN ISO 10289:2001-04)	17
Table 11 — Minimum corrosion resistance time of chromate conversion coatings on zinc alloy coatings subjected to the NSS test (rating number 10/10 as in DIN EN ISO 10289:2001-04)	17
Table A.1 — Minimum local coating thicknesses and corrosion resistance time of heat-stressed, chromated zinc alloy coatings (heating for 24 h at (120 ± 5) °C) subjected to the NSS test (rating number 10/10 as in DIN EN ISO 10289:2001-04)	19
Table A.2 — Minimum corrosion resistance time of heat-stressed chromate conversion coatings on zinc alloy subjected to the NSS test (rating number 10/10 as in DIN EN ISO 10289:2001-04)	20