

# DIN EN ISO 10683:2018-11 (E)

## Fasteners - Non-electrolytically applied zinc flake coating systems (ISO 10683:2018)

---

<b>Contents</b>	<b>Page</b>
<b>European foreword</b> .....	<b>3</b>
<b>Foreword</b> .....	<b>4</b>
<b>1 Scope</b> .....	<b>5</b>
<b>2 Normative references</b> .....	<b>5</b>
<b>3 Terms and definitions</b> .....	<b>5</b>
<b>4 General characteristics of the coating</b> .....	<b>6</b>
4.1 Zinc flake coating systems .....	6
4.2 Composition of the systems .....	6
4.3 Mechanical and physical properties and curing .....	6
4.4 Avoidance of internal hydrogen embrittlement .....	7
4.5 Coating systems and coating processes .....	7
<b>5 Corrosion protection and testing</b> .....	<b>7</b>
5.1 General .....	7
5.2 Neutral salt spray test .....	7
5.3 Sulfur dioxide test (Kesternich test) .....	8
5.4 Bulk handling, automatic processes such as feeding and/or sorting, storage and transport .....	8
<b>6 Dimensional requirements and testing</b> .....	<b>8</b>
6.1 General .....	8
6.2 Fasteners with ISO metric thread .....	8
6.2.1 Coating thickness .....	8
6.2.2 Gaugeability and assemblability .....	9
6.3 Other fasteners .....	10
<b>7 Mechanical and physical properties and testing</b> .....	<b>10</b>
7.1 Appearance .....	10
7.2 Corrosion resistance related to temperature .....	10
7.3 Test methods for thickness or coating weight determination .....	10
7.4 Ductility .....	11
7.5 Adhesion/cohesion .....	12
7.6 Sacrificial cathodic protection .....	12
7.7 Torque/clamp force relationship .....	12
7.8 Determination of hexavalent chromium .....	12
<b>8 Applicability of tests</b> .....	<b>12</b>
8.1 General .....	12
8.2 Tests mandatory for each lot .....	12
8.3 Tests for in-process control .....	13
8.4 Tests to be performed when specified by the purchaser .....	13
<b>9 Designation</b> .....	<b>13</b>
9.1 Designation of zinc flake coating systems for the order .....	13
9.2 Designation of zinc flake coating systems for labelling .....	14
<b>10 Ordering requirements</b> .....	<b>14</b>
<b>Annex A (informative) Design aspects and assembly of coated fasteners</b> .....	<b>16</b>
<b>Annex B (informative) Coating thickness and thread clearance for ISO metric screw threads</b> .....	<b>20</b>
<b>Annex C (informative) Coating systems tested in accordance with ISO 9227, NSS — Evaluation of cabinet corrosivity for the neutral salt spray test</b> .....	<b>27</b>
<b>Bibliography</b> .....	<b>35</b>