

# DIN EN 13438:2013-12 (E)

## Paints and varnishes - Powder organic coatings for hot dip galvanised or sherardised steel products for construction purposes

---

<b>Contents</b>		<b>Page</b>
Foreword .....		4
Introduction .....		5
<b>1</b>	<b>Scope .....</b>	<b>6</b>
<b>2</b>	<b>Normative references .....</b>	<b>6</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>7</b>
<b>4</b>	<b>Substrate material .....</b>	<b>8</b>
<b>5</b>	<b>Coating powder .....</b>	<b>8</b>
5.1	Identification .....	8
5.2	Storage .....	8
5.3	Performance requirements .....	9
5.3.1	General .....	9
5.3.2	Colour .....	9
5.3.3	Gloss .....	9
5.3.4	Adhesion .....	9
5.3.5	Resistance to scratching .....	9
5.3.6	Resistance to deformation .....	9
5.3.7	Resistance to mortar .....	9
5.3.8	Resistance to weathering .....	9
5.3.9	Resistance to humidity .....	10
5.3.10	Resistance to sulfur dioxide .....	10
5.3.11	Permeability .....	10
5.3.12	Resistance to salt spray .....	10
5.4	Health and safety information .....	10
<b>6</b>	<b>Application .....</b>	<b>11</b>
6.1	Cleaning and pretreatment of the hot dip galvanised or sherardised substrate .....	11
6.2	Coating powder .....	11
6.3	Application of coating powder .....	11
6.4	Significant surfaces of coated article .....	11
6.5	Performance requirements of the powder coated article .....	11
6.5.1	General .....	11
6.5.2	Surface appearance .....	11
6.5.3	Colour .....	11
6.5.4	Thickness .....	11
6.5.5	Gloss .....	12
6.5.6	Adhesion .....	12
<b>7</b>	<b>Certificate of conformity .....</b>	<b>12</b>
<b>Annex A (normative)</b>	<b>Methods of test for coating powders .....</b>	<b>15</b>
A.1	General .....	15
A.2	Sampling .....	15
A.3	Coated test panels .....	15
A.3.1	Material and dimensions .....	15

A.3.2	Pretreatment .....	15
A.3.3	Coating of the test panels .....	15
A.3.4	Determination of thickness .....	15
A.3.5	Appearance and conditioning .....	16
A.4	Test procedures on coated test panels .....	16
A.4.1	Surface .....	16
A.4.2	Colour .....	16
A.4.3	Gloss .....	16
A.4.4	Adhesion .....	16
A.4.5	Resistance to scratching .....	17
A.4.6	Resistance to deformation .....	17
A.4.7	Resistance to mortar .....	17
A.4.8	Resistance to weathering .....	17
A.4.9	Resistance to humidity .....	17
A.4.10	Resistance to sulfur dioxide .....	18
A.4.11	Permeability .....	18
A.4.12	Resistance to salt spray .....	18
Annex B (informative) Guidance on cleaning and pretreatment processes .....		19
B.1	Cleaning .....	19
B.2	Pretreatment .....	19
B.3	Types of pretreatment .....	19
B.3.1	Conversion and drying of the conversion coating (chemical pretreatment) .....	19
B.3.2	Mechanical pretreatment .....	20
Annex C (informative) Guidelines on the powder coating process .....		21
Annex D (normative) Methods of test for powder coatings .....		22
D.1	General .....	22
D.2	Test piece preparation .....	22
D.3	Test procedures on finished articles .....	22
D.3.1	Surface appearance .....	22
D.3.2	Colour .....	22
D.3.3	Thickness .....	22
D.3.4	Gloss .....	22
D.3.5	Adhesion .....	22
D.4	Test procedures on test panels .....	23
Annex E (informative) Guidelines on the care and protection of powder coated hot dip galvanised or sherardised steel components .....		24
E.1	Packing and handling .....	24
E.2	Tapes .....	24
Bibliography .....		25