

# DIN EN 14879-2:2007-02 (E)

## Organic coating systems and linings for protection of industrial apparatus and plants against corrosion caused by aggressive media - Part 2: Coatings on metallic components

---

<b>Contents</b>		<b>Page</b>
Foreword .....		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>General .....</b>	<b>8</b>
4.1	Selection criteria .....	8
4.1.1	General .....	8
4.1.2	Exposing media .....	8
4.1.3	Type and frequency of fluid loading .....	11
4.1.4	Thermal loading .....	11
4.1.5	Changes in temperature .....	11
4.1.6	Mechanical loading .....	12
4.1.7	Climatic influences .....	12
4.1.8	Additional requirements .....	12
4.2	Load profile .....	12
4.3	Requirements .....	12
4.3.1	Components .....	12
4.3.2	Coating materials .....	12
4.3.3	Coating system .....	13
4.3.4	Coated components .....	14
<b>5</b>	<b>Coating systems .....</b>	<b>14</b>
5.1	Laminate coating systems .....	14
5.1.1	Coating system design .....	14
5.1.2	Description of layers .....	15
5.1.3	General requirements .....	15
5.1.4	Coating process .....	17
5.1.5	Requirements for the coating system .....	19
5.2	Trowelled coating systems .....	20
5.2.1	Coating system design .....	20
5.2.2	Description of layers .....	21
5.2.3	General requirements .....	21
5.2.4	Coating process .....	22
5.2.5	Requirements for the coating system .....	24
5.3	Sprayed coating .....	26
5.3.1	Coating system design .....	26
5.3.2	Description of layers .....	26
5.3.3	General requirements .....	27
5.3.4	Application .....	28
5.3.5	Requirements for the coating system .....	29
5.4	Powder coating .....	31
5.4.1	Coating system design .....	31
5.4.2	Description of layers .....	32
5.4.3	Component design and surface condition .....	33
5.4.4	Coating materials .....	33

5.4.5	Ambient conditions .....	34
5.4.6	Surface preparation .....	34
5.4.7	Application .....	34
5.4.8	Requirements for the coating system .....	34
5.5	Protection of existent coatings .....	36
5.5.1	General .....	36
5.5.2	Packaging and handling .....	36
5.5.3	Storage .....	37
5.5.4	Assembly .....	37
5.5.5	Repair .....	37
6	Designation .....	38
6.1	Laminate coating .....	38
6.2	Trowelled coating .....	38
6.3	Sprayed coating .....	39
6.4	Powder coating .....	39
7	Testing .....	39
7.1	General .....	39
7.2	Suitability testing .....	39
7.3	Receiving inspection of coating material .....	40
7.3.1	General .....	40
7.3.2	Container marking .....	40
7.3.3	Viscosity or flow time .....	40
7.3.4	Density .....	40
7.3.5	Colour .....	40
7.3.6	Non-volatile matter content .....	40
7.3.7	Gel time .....	40
7.3.8	Binders .....	40
7.4	Testing of coating systems during application .....	40
7.4.1	General .....	40
7.4.2	Suitability of component for coating .....	40
7.4.3	Ambient conditions .....	41
7.4.4	Application method .....	41
7.4.5	Thickness of coating layers .....	41
7.5	Acceptance testing .....	41
7.5.1	General .....	41
7.5.2	Acceptance testing of coated component .....	41
7.5.3	Acceptance testing of specimens .....	41
7.6	Routine testing .....	42
7.7	Inspection report .....	42
8	Suitability verification and tests .....	42
8.1	Requirements .....	42
8.1.1	General .....	42
8.1.2	Laboratory testing .....	43
8.1.3	In-service testing (field tests) .....	45
8.1.4	Testing on reference objects .....	45
8.2	Tests .....	45
8.2.1	Sample bodies .....	45
8.2.2	Fluid load, resistance and tightness .....	45
8.2.3	Thermal loading .....	47
8.2.4	Temperature change loading .....	47
8.2.5	Adhesion strength .....	47
8.2.6	Ageing behaviour .....	47
8.2.7	Dissipation capability .....	48
Annex A (informative)	Specimen form .....	49
Annex B (informative)	Information to be given by the coating material manufacturer .....	50
Annex C (informative)	Information to be given by the coating manufacturer .....	51

<b>Annex D (informative) Resistance of resins to various chemicals at ambient temperature .....</b>	<b>52</b>
<b>Annex E (normative) Testing the dissipation capability .....</b>	<b>53</b>
<b>E.1 General .....</b>	<b>53</b>
<b>E.1.1 Dissipation resistance .....</b>	<b>53</b>
<b>E.1.2 Ground dissipating resistance .....</b>	<b>53</b>
<b>E.2 Testing the dissipation resistance of test samples .....</b>	<b>53</b>
<b>E.2.1 Instruments .....</b>	<b>53</b>
<b>E.2.2 Test procedure .....</b>	<b>53</b>
<b>E.2.3 Test report .....</b>	<b>53</b>
<b>E.3 Measuring the ground dissipation resistance on the laid surface protection system .....</b>	<b>54</b>
<b>E.3.1 Instruments .....</b>	<b>54</b>
<b>E.3.2 Preparation .....</b>	<b>54</b>
<b>E.3.3 Test procedure .....</b>	<b>54</b>
<b>E.3.4 Test report .....</b>	<b>55</b>
<b>Annex F (normative) Test fluid groups for verification of suitability for material/media combinations .....</b>	<b>56</b>
<b>Annex G (informative) Selection criteria for surface protection systems .....</b>	<b>58</b>
<b>G.1 Load profiles and suitable protection for gutters, trenches, pipes etc .....</b>	<b>58</b>
<b>G.2 Load profiles and suitable protection for containers .....</b>	<b>59</b>
<b>Annex H (informative) Sample form for acceptance inspection report .....</b>	<b>60</b>
<b>A-Deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN/CENELEC member .....</b>	<b>61</b>
<b>Bibliography .....</b>	<b>62</b>