

# DIN EN 14879-6:2010-04 (E)

## Organic coating systems and linings for protection of industrial apparatus and plants against corrosion caused by aggressive media - Part 6: Combined linings with tile and brick layers

---

<b>Contents</b>		<b>Page</b>
Foreword .....		4
<b>1</b>	<b>Scope .....</b>	<b>5</b>
<b>2</b>	<b>Normative references .....</b>	<b>5</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>6</b>
<b>4</b>	<b>General .....</b>	<b>7</b>
4.1	Steel vessels and apparatus .....	7
4.1.1	Calculating the dimensions of brick-lined steel vessels .....	7
4.1.2	Dimensional tolerances (for steel and non-ferrous vessels) .....	9
4.1.3	Construction of steel vessels .....	9
4.1.4	Installation of brick-lined vessels .....	10
4.1.5	Leak tests .....	10
4.1.6	Repairs and modifications .....	10
4.2	Concrete vessels and apparatus .....	10
4.2.1	Calculating the dimensions of brick-lined concrete vessels .....	10
4.2.2	Dimensional tolerances .....	10
4.2.3	Requirements to the concrete construction .....	10
4.3	Substrate preparation .....	10
4.4	Sealing layer .....	10
4.5	Service layer .....	11
4.5.1	Bedding and jointing mortar/cement .....	11
4.5.2	Jointing materials for expansion joints .....	17
4.5.3	Semi-finished products .....	17
4.6	Combined lining system .....	20
4.7	Selection criteria .....	21
4.7.1	Type and frequency of fluid loading .....	21
4.7.2	Thermal loading .....	22
4.7.3	Changes in temperature .....	22
4.7.4	Mechanical loading .....	22
4.7.5	Weather factors .....	23
4.8	Materials manufacturer .....	23
4.9	Applicator .....	23
4.10	Application .....	23
4.10.1	Sealing layers .....	23
4.10.2	Service layer .....	24
4.10.3	General requirements .....	27
4.11	Protected objects .....	27
<b>5</b>	<b>Requirements .....</b>	<b>27</b>
5.1	Fluid load, chemical resistance and tightness .....	27
5.2	Thermal loading .....	27
5.3	Temperature change loading .....	28
5.4	Mechanical loading .....	28
5.5	Anti-slip protection .....	29
5.6	Crack bridging .....	29
5.7	Adhesion strength .....	29

5.8	Ageing behaviour .....	29
5.9	Weathering behaviour .....	29
5.10	Concrete compatibility .....	29
5.11	Behaviour in cleaning and neutralization processes .....	29
5.12	Capability of dissipating static charges .....	29
5.13	Behaviour in fire .....	30
6	Testing .....	30
6.1	General .....	30
6.2	Receiving inspection of coating/lining materials .....	30
6.2.1	Inspection of materials, components and their markings .....	30
6.2.2	Checking storage conditions .....	30
6.3	Testing of combined lining systems during application .....	30
6.3.1	Ambient conditions .....	30
6.3.2	Sealing layer .....	31
6.3.3	Service layer .....	31
6.3.4	Documentation .....	31
6.4	Suitability testing .....	31
6.4.1	General .....	31
6.4.2	Testing of combined linings .....	32
Annex A (informative) Selection criteria for surface protection systems .....		36
A.1	Load profiles and suitable surface protection systems for floors and walls .....	36
A.2	Load profiles and suitable surface protection systems for collecting basins .....	37
A.3	Load profiles and suitable protection for production plant floors .....	38
A.4	Load profiles and suitable protection for collecting basins, gutters, channels, pipes, etc .....	39
A.5	Load profiles and suitable protection for containers .....	40
Annex B (normative) Overview of verification of suitability for combined linings .....		41
Annex C (normative) Testing the dissipation capability .....		42
C.1	General .....	42
C.1.1	Dissipation resistance .....	42
C.1.2	Ground dissipating resistance .....	42
C.2	Testing the dissipation resistance of test samples .....	42
C.2.1	Instruments .....	42
C.2.2	Test procedure .....	42
C.2.3	Test report .....	42
C.3	Measuring the ground dissipation resistance on the laid surface protection system .....	43
C.3.1	Instruments .....	43
C.3.2	Preparation .....	43
C.3.3	Test procedure .....	43
C.3.4	Test report .....	44
Annex D (normative) Test methods for tolerances and limit deviations .....		45
D.1	Scope and purpose .....	45
D.2	Tolerances and limit deviations .....	45
D.2.1	Cylindrical vessel .....	45
D.2.2	Flat-sided vessels .....	47
D.3	Test methods .....	47
D.3.1	General .....	47
D.3.2	Cylindrical vessel, cylindrical part .....	47
D.3.3	Shop-fabricated cylindrical vessel, flat base .....	49
D.3.4	Flat-sided vessels, angular horizontal projection (Determination of the flatness of the faces) .....	50
Annex E (informative) A-deviations .....		52
Bibliography .....		53