

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

| Contents | | Page |
|-----------------|--|-------------|
| Foreword | | 4 |
| 1 | Scope | 5 |
| 2 | Normative references | 5 |
| 3 | Terms and definitions | 6 |
| 4 | General | 7 |
| 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 |
| 5 | Requirements | 27 |
| 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 |