

DIN EN 13166:2016-09 (E)

Thermal insulation products for buildings - Factory made phenolic foam (PF) products - Specification (includes Amendment :2016)

| Contents | | Page |
|---|--|-------------|
| European foreword | | 4 |
| 1 | Scope | 7 |
| 2 | Normative references | 7 |
| 3 | Terms, definitions, symbols, units and abbreviated terms | 9 |
| 4 | Requirements | 12 |
| 5 | Test methods | 19 |
| 6 | Designation code | 21 |
| 7 | Assessment and Verification of the Constancy of Performance (AVCP) | 22 |
| 8 | Marking and labelling | 22 |
| Annex A (normative) Determination of the declared values of thermal resistance and thermal conductivity | | 24 |
| A.1 | General | 24 |
| A.2 | Input data | 24 |
| A.3 | Declared values | 24 |
| Annex B (normative) "Product type determination" ("PTD") and factory production control (FPC) | | 26 |
| Annex C (normative) Determination of the aged values of thermal resistance and thermal conductivity | | 30 |
| C.1 | General | 30 |
| C.2 | Preparation of test sample | 31 |
| C.3 | Determination of the initial value of thermal conductivity | 31 |
| C.4 | Determination of the aged value of thermal conductivity | 31 |
| C.5 | Blowing agent | 33 |
| C.6 | Declaration of thermal resistance and thermal conductivity | 34 |
| Annex D (informative) Additional properties | | 35 |
| D.1 | General | 35 |
| D.2 | Shear strength | 35 |
| D.3 | Cell gas composition | 35 |
| Annex E (normative) PF multi-layered thermal insulation products | | 36 |
| E.1 | General | 36 |
| E.2 | Requirements | 36 |
| E.3 | Test methods | 37 |
| E.4 | Evaluation of conformity | 37 |

| | |
|--|-----------|
| Annex ZA (informative) "Clauses of this European Standard addressing the provisions of the EU Construction Products Regulation" | 38 |
| Bibliography | 49 |
| Tables Table 1 -- Tolerances for length and width | 13 |
| Table 2 -- Classes for thickness tolerances | 13 |
| Table 3 -- Tolerances for deviation from flatness | 14 |
| Table 4 -- Dimensional stability under specified temperature and humidity conditions | 15 |
| Table 5 -- Levels for compressive strength | 16 |
| Table 6 -- Levels for tensile strength perpendicular to faces | 16 |
| Table 7 -- Levels for short term water absorption by partial immersion | 17 |
| Table 8 -- Levels for long term water absorption by partial immersion | 17 |
| Table 9 -- Test methods, specimens and conditions | 20 |
| Table A.1 -- Values for k for one side 90 % tolerance interval with a confidence level of 90 % | 25 |
| Table B.1 -- Minimum number of tests for "PTD" and minimum product testing frequencies | 26 |
| Table B.2 -- Minimum product testing frequencies for the reaction to fire characteristics | 28 |
| Table C.1 -- Test times for product thicknesses | 32 |
| Table C.2 -- Increments to be added to accelerated aged values of thermal conductivity to obtain the time averaged value over 25 years (W/mK) | 33 |
| Table D.1 -- Test methods, test specimens, conditions and minimum testing frequencies | 35 |
| Table ZA.1 -- Relevant clauses for factory made phenolic foam and intended use | 39 |
| Table ZA.2 -- Systems of AVCP | 40 |
| Table ZA.3.1 -- Assignment of AVCP tasks for factory made phenolic foam products under system 1 for reaction to fire and system 3 (see Table ZA.2) | 41 |
| Table ZA.3.2 -- Assignment of AVCP tasks for factory made phenolic foam products under system 3 (see Table ZA.2) | 42 |
| Table ZA.3.3 -- Assignment of AVCP tasks for factory made phenolic foam products under combined system 4 for reaction to fire and system 3 (see Table ZA.2) | 43 |
| Figures Figure ZA.1 -- "Example CE marking information of products under AVCP system 1 and system 3" | 48 |