

DIN EN 13163:2013-03 (E)

Thermal insulation products for buildings - Factory made expanded polystyrene (EPS) products - Specification

Contents		Page
Foreword		5
1	Scope	7
2	Normative references	7
3	Terms, definitions, symbols, units and abbreviated terms	9
3.1	Terms and definitions	9
3.2	Symbols, units and abbreviated terms	10
4	Requirements	13
4.1	General	13
4.2	For all applications	13
4.3	For specific applications	16
5	Test methods	22
5.1	Sampling	22
5.2	Conditioning	22
5.3	Testing	23
6	Designation code	26
7	Evaluation of conformity	27
7.1	General	27
7.2	Initial type testing	27
7.3	Factory production control	27
8	Marking and labelling	27
Annex A (normative)		29
A.1	General	29
A.2	Input data	29
A.3	Declared values	29
Annex B		31
B.1	Initial type testing and factory production control	31
B.2	Indirect testing for factory production control	36
Annex C		38
Annex D (normative) Multi layered EPS products		39
D.1	General	39
D.2	Requirements	39
D.3	Test methods	40
D.4	Evaluation of conformity	40
Annex E (informative) Verification of the reaction to fire classification of raw materials		41

E.1	General	41
E.2	Material covered by this annex	41
E.3	Preparation of samples	41
E.4	Initial type tests for EPS raw material	41
E.5	Factory Production Control for EPS raw material	42
E.6	Certification of conformity for EPS raw material	42
E.7	Continuous surveillance of EPS raw material	43
E.8	Material certificate for EPS raw material	43
E.9	Requirement for raw material supply	44
Annex F (informative) Additional properties		45
F.1	General	45
F.2	Long-term compressive behaviour	45
F.3	Shear behaviour	45
F.4	Water vapour diffusion resistance factor	46
F.5	Examples of determination of thermal conductivity	46
F.6	Additional information	47
Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products directive		48
Bibliography		56
Tables Table 1 -- Classes of dimensional tolerances		15
Table 2 -- Dimensional stability under specified temperature or specified temperature and humidity conditions		16
Table 3 -- Levels for compressive stress at 10 % deformation		17
Table 4 -- Levels for bending strength		17
Table 5 -- Levels of deformation under specified compressive load and temperature conditions		18
Table 6 -- Levels for dynamic stiffness		20
Table 7 -- Classes for thickness tolerances		21
Table 8 -- Levels for compressibility		21
Table A.1 -- Values for k for one sided 90 % tolerance interval with a confidence level of 90 %		30
Table B.1 -- Number of tests for ITT and minimum product testing frequencies		31
Table B.2 -- Minimum product testing frequencies for the reaction to fire characteristics		34
Table C.1 -- Classification of EPS products		38
Table C.2 -- Classification EPS products with acoustical properties		38
Table E.1 -- Testing frequency of raw material		43
Table F.1 -- Correlation between bending strength and shear strength		45
Table F.2 -- Tabulated values of water vapour diffusion resistance index and water vapour permeability		46
Table ZA.1 -- Relevant clauses for EPS and intended uses		49
Table ZA.2 -- Systems of attestation of conformity		50

Table ZA.3.1 -- Assignment of evaluation of conformity tasks for products under system 1 for reaction to fire and system 3 for other characteristics51

Table ZA.3.2 - Assignment of evaluation of conformity tasks for products under system 3 or 3 combined with system 4 for reaction to fire52

Figures Figure F.1 -- Example of a relationship between thermal conductivity (at 50 mm reference thickness and 10 °C mean temperature) apparent density for indirect testing of non infrared absorbing EPS47

Figure ZA.1 -- Example CE marking information55