DIN EN 14307:2016-03 (E)

Thermal insulation products for building equipment and industrial installa tions - Factory made extruded polystyrene foam (XPS) products - Specification

Contents

Page

European foreword 4

1 Scope 6

2 Normative references 6

3 Terms, definitions, symbols, units and abbreviated terms 8
3.1 Terms and definitions 8
3.1.1 Terms and definitions as given in EN ISO 9229:2007 8
3.1.2 Additional terms and definitions 8
3.2 Symbols, units and abbreviated terms 9
3.2.1 Symbols and units used in this standard 9
3.2.2 Abbreviations used in this standard 10

4 Requirements 10
4.1 General 10
4.2 For all applications 11
4.2.1 Thermal conductivity 11
4.2.2 Dimensions and tolerances 11
4.2.3 Dimensional stability 12
4.2.4 Reaction to fire of the product as placed on the market 13
4.2.5 Durability characteristics 13
4.3 For specific applications 13
4.3.1 General 13
4.3.2 Maximum service temperature 13
4.3.3 Minimum service temperature 14
4.3.4 Compressive stress or compressive strength 14
4.3.5 Water vapour diffusion transmission properties 14
4.3.6 Short-term water absorption by partial immersion 15
4.3.7 Trace quantities of water soluble ions and the pH-value 15
4.3.8 Release of dangerous substances 15
4.3.9 Continuous glowing combustion 15

5 Test methods 15
5.1 Sampling 15
5.2 Conditioning 15
5.3 Testing 15
5.3.1 General 15
5.3.2 Thermal conductivity 16
5.3.3 Reaction to fire 16

6 Designation code 18

7 Assessment and Verification of the Constancy of Performance (AVCP) 18
7.1 General 18
7.2 Product Type Determination (PTD) 18
7.3 Factory Production Control (FPC) 19

8 Marking and labelling 19

Annex A (normative) Factory production control 20

Annex B (normative) Determination of the aged values of thermal conductivity 22

B.1 Scope 22
B.2 Procedure for XPS foam without diffusion tight laminates 22
B.3 Procedure for XPS foam for use with diffusion tight facings on both sides 23
B.4 Blowing agent 23

Annex C (informative) Additional properties 24

C.1 General 24
C.2 Behaviour under cyclic loading 24
C.3 Compressive modulus of elasticity 24
C.4 Bending strength 24
C.5 Shear strength 24
C.6 Deformation under specified compressive load and temperature conditions 25
C.7 Compressive creep 25
C.8 Tensile strength perpendicular to facings 26
C.9 Long term water absorption by diffusion 26
C.10 Long term water absorption by immersion 26
C.11 Freeze-thaw resistance 27
C.12 Apparent density 27
C.13 Coefficient of thermal expansion 27
C.14 Closed cell content 27

Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Regulation 29

ZA.1 Scope and relevant characteristics 29

ZA.2 Procedures for AVCP of factory made extruded polystyrene foam products 31

ZA.3 CE Marking and labelling 38

Bibliography 40