

# DIN EN 14314:2016-03 (E)

## Thermal insulation products for building equipment and industrial installations - Factory made phenolic foam (PF) products - Specification

---

<b>Contents</b>		<b>Page</b>
European foreword .....		4
<b>1</b>	<b>Scope .....</b>	<b>6</b>
<b>2</b>	<b>Normative references .....</b>	<b>6</b>
<b>3</b>	<b>Terms, definitions, symbols, units and abbreviated terms .....</b>	<b>8</b>
<b>3.1</b>	<b>Terms and definitions .....</b>	<b>8</b>
<b>3.1.1</b>	<b>Terms and definitions as given in EN ISO 9229 .....</b>	<b>8</b>
<b>3.1.2</b>	<b>Additional terms and definitions .....</b>	<b>8</b>
<b>3.2</b>	<b>Symbols, units and abbreviated terms .....</b>	<b>9</b>
<b>3.2.1</b>	<b>Symbols and units used in this standard .....</b>	<b>9</b>
<b>3.2.2</b>	<b>Abbreviated terms used in this standard .....</b>	<b>10</b>
<b>4</b>	<b>Requirements .....</b>	<b>11</b>
<b>4.1</b>	<b>General .....</b>	<b>11</b>
<b>4.2</b>	<b>For all applications .....</b>	<b>11</b>
<b>4.2.1</b>	<b>Thermal conductivity .....</b>	<b>11</b>
<b>4.2.2</b>	<b>Dimensions and tolerances .....</b>	<b>11</b>
<b>4.2.3</b>	<b>Dimensional stability .....</b>	<b>13</b>
<b>4.2.4</b>	<b>Reaction to fire of the product as placed on the market .....</b>	<b>13</b>
<b>4.2.5</b>	<b>Durability characteristics .....</b>	<b>13</b>
<b>4.3</b>	<b>For specific applications .....</b>	<b>14</b>
<b>4.3.1</b>	<b>General .....</b>	<b>14</b>
<b>4.3.2</b>	<b>Maximum service temperature .....</b>	<b>14</b>
<b>4.3.3</b>	<b>Minimum service temperature .....</b>	<b>14</b>
<b>4.3.4</b>	<b>Dimensional stability under specified conditions .....</b>	<b>14</b>
<b>4.3.5</b>	<b>Compression resistance properties .....</b>	<b>15</b>
<b>4.3.6</b>	<b>Water vapour diffusion resistance .....</b>	<b>16</b>
<b>4.3.7</b>	<b>Water absorption .....</b>	<b>16</b>
<b>4.3.8</b>	<b>Closed cell content .....</b>	<b>17</b>
<b>4.3.9</b>	<b>Trace quantities of water soluble chloride and the pH-value .....</b>	<b>17</b>
<b>4.3.10</b>	<b>Release of dangerous substances .....</b>	<b>17</b>
<b>4.3.11</b>	<b>Continuous glowing combustion .....</b>	<b>17</b>
<b>5</b>	<b>Test methods .....</b>	<b>18</b>
<b>5.1</b>	<b>Sampling .....</b>	<b>18</b>
<b>5.2</b>	<b>Conditioning .....</b>	<b>18</b>
<b>5.3</b>	<b>Testing .....</b>	<b>18</b>
<b>5.3.1</b>	<b>General .....</b>	<b>18</b>
<b>5.3.2</b>	<b>Thermal conductivity .....</b>	<b>20</b>
<b>5.3.3</b>	<b>Reaction to Fire .....</b>	<b>21</b>
<b>6</b>	<b>Designation code .....</b>	<b>21</b>
<b>7</b>	<b>Assessment and Verification of the Constancy of Performance (AVCP) .....</b>	<b>21</b>
<b>7.1</b>	<b>General .....</b>	<b>21</b>
<b>7.2</b>	<b>Product Type Determination (PTD) .....</b>	<b>22</b>
<b>7.3</b>	<b>Factory Production Control (FPC) .....</b>	<b>22</b>
<b>8</b>	<b>Marking and labelling .....</b>	<b>22</b>

<b>Annex A (normative) Factory production control .....</b>	<b>23</b>
<b>Annex B (normative) Determination of the aged value of thermal conductivity .....</b>	<b>25</b>
<b>B.1 General .....</b>	<b>25</b>
<b>B.2 Preparation of test sample .....</b>	<b>25</b>
<b>B.3 Determination of the initial value of thermal conductivity .....</b>	<b>26</b>
<b>B.4 Determination of the aged value of thermal conductivity .....</b>	<b>26</b>
<b>B.5 Blowing agent .....</b>	<b>27</b>
<b>B.6 Declaration of thermal resistance and thermal conductivity .....</b>	<b>27</b>
<b>Annex C (normative) Determination of minimum service temperature .....</b>	<b>28</b>
<b>C.1 Definitions .....</b>	<b>28</b>
<b>C.2 Principle .....</b>	<b>28</b>
<b>C.3 Apparatus .....</b>	<b>28</b>
<b>C.4 Test specimens .....</b>	<b>29</b>
<b>C.5 Procedure .....</b>	<b>29</b>
<b>C.6 Calculation and expression of results .....</b>	<b>30</b>
<b>C.7 Accuracy of measurements .....</b>	<b>30</b>
<b>C.8 Test report .....</b>	<b>30</b>
<b>C.9 Modifications of and additions to the general test method for phenolic foams .....</b>	<b>31</b>
<b>Annex D (informative) Additional properties .....</b>	<b>34</b>
<b>D.1 General .....</b>	<b>34</b>
<b>D.2 Apparent density .....</b>	<b>34</b>
<b>D.3 Coefficient of thermal expansion .....</b>	<b>34</b>
<b>D.4 Water vapour transmission of preformed pipe insulation .....</b>	<b>34</b>
<b>D.5 Tensile strength perpendicular to faces .....</b>	<b>34</b>
<b>D.6 Shear strength .....</b>	<b>34</b>
<b>D.7 Bending strength .....</b>	<b>35</b>
<b>D.8 Cell gas composition .....</b>	<b>35</b>
<b>D.9 Cryogenic application .....</b>	<b>35</b>
<b>Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Regulation .....</b>	<b>36</b>
<b>ZA.1 Scope and relevant characteristics .....</b>	<b>36</b>
<b>ZA.2 Procedures for AVCP of factory made phenolic foam .....</b>	<b>38</b>
<b>ZA.3 CE Marking and labelling .....</b>	<b>45</b>
<b>Bibliography .....</b>	<b>47</b>