

GNB-CPD SG19	Guidance from the Group of Notified Bodies for the Construction Products Directive 89/106/EEC	NB-CPD/SG19/09/111r5 (SG19 N87) Rev 11 Issued: 2014-02-24 SG19 GUIDANCE
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EN 13162 through EN 13171, EN 14064-1, and EN 14303 through EN 14314

QUESTIONS AND ANSWERS

Revision 1: Q&A nos. 28 and 29 added.
Revision 2: Q&A nos. 30 through 34 added
Revision 3: Q&A nos. 35, 36, and 37 added
Revision 4: Q&A nos. 38 through 43 added
Revision 5: Q&A no. 44 added
Revision 6: Q&A nos. 45 through 47 added
Revision 7: Q&A no 47 modified
Revision 8: Q&A nos. 46 and 47 modified
Revision 9: Q&A nos. 48 through 51 added
Revision 10: Q&A nos. 52 and 53 added, nos. 34, 43, 44, and 51 modified, nos. 38 through 51 approved
Revision 11: Q&A nos. 55 through 60 added, nos. 11 and 44 revised

GENERAL

Below is found guidance form Sector group 19 related to the product standards EN13162 through EN13171 used in combination with EN13172, which is mandatory for CE-marking.

The guidance is given in the form of agreed answers to questions raised within SG19.

In the below text, the form "shall" indicates that all notified bodies are expected to work in accordance with the answers. The form "should" indicated that the answer is considered a recommendation.

As new questions are raised frequently and the standards are being continuously developed by the working groups of TC88, this position paper is being developed continuously as well.

Question	Answer	References
001 <i>How many samples are needed for initial type test of reaction to fire properties?</i>	At least one sample The number of tests is regulated by EN 13172 clause B.2.3 (system 1) or clause C.2.2 (system 3). For all other properties than reaction to fire, ITT shall be performed on samples from four different production dates covering the thickness range declared by the manufacturer. As regards reaction to fire, only one result is required. According to the above-mentioned clauses, the result shall be based on specimens <i>from the different production dates</i> . This is understood by SG19 as " <i>using specimens from one or more of the four production dates</i> ". Thus, in cases where reaction to fire is the only property to test on a particular product, only one sample is required (unless it is necessary to test more than one thickness). <i>Approved by SG19 on 2003-06-03</i>	EN13172 clause B.2.3 EN13172 clause C.2.2
002 <i>What is the meaning of the term "production unit (line)"</i>	Depends on the product "Production unit" may generally be understood as the production equipment used for manufacturing the individual product. For products manufactured on a production line, the production unit is evidently identical to production line. <i>For products with a more complex production process, e.g.</i>	

Question	Answer	References
	<p><i>products from a line being cut and/or having a facing added in a separate department of the factory, the production unit shall be understood as all the hardware used for the processing of this particular product.</i></p> <p>New definitions of the terms are planned to be included by the next edition of EN 13172:</p> <p><i>Production line: Assemblage of equipment that produces products using a continuous process.</i></p> <p><i>Production unit: Assemblage of equipment that produces products using a discontinuous process.</i></p> <p style="text-align: right;"><i>Approved by SG19 on 2003-06-03.</i></p>	
<p>003</p> <p><i>May the same ITT cover products from more than one production unit (line) if they are manufactured in the same plant?</i></p>	<p>No, an Initial Type Test is only valid for the single production unit from which the samples are taken</p> <p>According to EN 13172 clause 5.3.5.1, samples for direct testing shall be drawn from each production unit (line). Initial type test shall be understood as part of the direct testing in the running FPC and shall fulfil the requirement regarding direct testing in the FPC. For properties with no minimum testing frequency, ITT is the only requirement stated by table B.1 of the product standards.</p> <p style="text-align: right;"><i>Approved by SG19 on 2003-06-03</i></p>	<p>EN 13172 clauses 5.3.5.1 and 6. Annex B of the product standards, EN 13162-13171</p>
<p>004</p> <p><i>How to choose the measuring load when measuring thickness on mineral wool?</i></p>	<p><i>There is a printing error in the standard!</i></p> <p>EN 13162 clause 4.2.3 requires that the measuring load shall be 50Pa on products with a compressive stress/strength less than 15 kPa. On products with a higher compressive stress/strength the load shall be 250 Pa. The correct criterion is 10 kPa – not 15 kPa.</p> <p>Is cases where the exact compressive stress/strength is not known (e.g. if it is not declared), an estimation of the compressive stress/strength based on related parameters may form the basis for the choice of load.</p> <p style="text-align: right;"><i>Approved by SG19 on 2003-06-03</i></p> <p>Recent development: <i>In AC:2005, "15 kPa" is replaced by "10 kPa" .</i> Added 2009-09-23: <i>In 13162:2008, the criterion is maintained at 10 kPa.</i> <i>Hereby the error is considered corrected.</i></p> <p style="text-align: right;"><i>Approved by SG19 on 2009-09-23</i></p>	<p>EN13162 clause 4.2.3</p> <p>as stated in clause 5.3.2</p>
<p>005</p> <p><i>May a lambda 90/90 – calculation cover several production units (lines)</i></p>	<p><i>No - lambda 90/90 calculations shall be performed for each lambda group, on each production unit (line)</i></p> <p>Lambda is tested on an ongoing basis as part of the FPC. FPC is always carried out separately for the individual production units (lines). For all other tests in the FPC, the compliance criteria are the declared values which shall be fulfilled by every single test result.</p> <p>For thermal properties, the 90/90-fractile is the compliance criterion for the product (group). There are no compliance criteria for individual test results except for 3rd party ITT where all four test results shall be better than or equal to the declared value.</p> <p style="text-align: right;"><i>Approved by SG19 on 2003-06-03</i></p>	<p>EN 13172 clause 5.3.5.1, GNB-SG19 N30 rev.</p> <p>Annexes A and B of the product standards</p>

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<p>006</p> <p><i>Is airflow resistance the right way of declaration?</i></p>	<p><i>A technical error in EN 13162</i></p> <p>The EN 13162 is giving a requirement in airflow resistance "AF" which depends on the dimensions of the test apparatus and thickness. It is recognised as an error by experts now. The most useful information is the airflow resistivity "r". As the standard cannot be changed quickly and having considered the question raised, we can make the following proposal:</p> <p>To declare the airflow resistivity as "AFr", instead of airflow resistance as AF. The symbol of resistivity is "r" in EN 29053. This may avoid confusion between AF, which is linked by the EN 13162 to airflow resistance only. By the next revision of the standard, the "r" may be deleted.</p> <p style="text-align: right;"><i>Approved by SG19 on 2003-06-03</i></p> <p><i>Recent development:</i> <i>In AC:2005, "Airflow resistance" is replaced by "Airflow resistivity", and the symbol "AF" is replaced by "AFr".</i></p> <p><i>Added 2009-09-23</i> <i>In EN 13162:2008, as well the term "Airflow resistivity" as the symbol "AFr" are maintained.</i></p> <p style="text-align: right;"><i>Approved by SG19 on 2009-09-23</i></p>	<p>EN 13162 clause 4.3.12</p>
<p>007</p> <p><i>Calculation of lambda 90/90</i></p>	<p><i>The standards are giving different requirements for number of measurements to get a test result</i></p> <p>The technical bases for declaration and check of the 90/90-fractile is not uniform because :</p> <p>The EPS standard states that one test result is the result of one measurement. For the 9 other of the 10 product families, one test result can be obtained by averaging a number of measurements. This will cause a significant reduction of the apparent standard deviation.</p> <p>For many products, the standard deviation also depends upon the measuring area of the apparatus.</p> <p>Furthermore, the statistical bases are not uniform between ITT, chapter 7 of EN 13172, audit testing and routine testing.</p> <p>It is discussed whether it would be wise to recommend an exact number of measurements to obtain one test result. After a long discussion in SG-19, it is considered difficult to advise on this subject.</p> <p>Manufacturers should be aware that in case of complaints or for certification purpose, the third party may use n = 1 or a limited value of n.</p> <p style="text-align: right;"><i>Approved by SG19 on 2003-06-03</i></p>	<p>EN 13163 clause 5 table 13. All other 9 standards indicate one measurement as a minimum to get a test result.</p>
<p>008</p> <p><i>How to handle the mounting and fixing in the SBI-test</i></p>	<p><i>Added 2009-09-23:</i></p> <p>The new standard EN15715 is describing in detail mounting and fixing for the SBI-test.</p> <p>EN 15715 has taken account of the guidance and recommendation previously supplied by SG19 and SH02. Therefore, at present no further need is identified for guidance on that issue.</p> <p>However, for the completeness the previously issued guidance is maintained below.</p> <p><i>2003 comments:</i></p>	<p>EN 15715 EN 13501-1 EN 13823 EN 13238 FSG-recommendation 009 (only for MW)</p>

Question	Answer	References
	<p>The mounting and fixing is described in the test standard EN 13823 (standard mounting options). The test conditions shall reflect the “end-use conditions” (See note 1). The term “end-use conditions” has sometimes lead to the misunderstanding that the building part in which the product is intended to be used shall be subject to testing, but this is not correct.</p> <p>All tests supporting the product standards are strictly related to the product – not to any building parts (See note 2). Thus, the product itself shall be exposed to the flame in the test, and it shall not be covered by any additional facings or boards etc.</p> <p>The test conditions shall reflect the “end use conditions” of the product, i.e. the fixing method and the type of substrate in the end use.</p> <p>The choice of a standard substrate for testing is carried out according to EN 13823, which also gives the field of application of the test result using different substrates.</p> <p>The field of application of the chosen fixing method is limited to the one used unless a wider field of application is documented, e.g. by guidance from GNB Fire Sector Group or by testing.</p> <p>The choice of test conditions – in particular the choice of substrate - may lead to different classifications.</p> <p>Following the general “worst case” approach, the substrate and fixing method giving the worst result shall be chosen.</p> <p>On the other hand, if a manufacturer should choose to recommend his product only to be used on non-combustible substrates, it would be acceptable only to test the product on a non-combustible substrate. If no specific fixing method is desired, the one giving the worst result should be used.</p> <p>Testing on a non-combustible substrate will imply a limitation in the “field of application” stated in the classification report. Use of a fixing method not representing the worst case will imply limitations as well. <i>(to be continued)</i></p> <p>In order to avoid a product from being used in applications for which the classification is not valid, any limitations in the field of application shall be stated clearly in the manufacturers technical documentation; in particular in the manufacturers declaration of conformity.</p> <p>NOTE 1: The manufacturer does normally not know the end-use of the product. In general, it is left to the building designer to decide and describe – in technical terms – the requirements to the performance of the product. The product shall subsequently be chosen on the basis of the manufacturer’s declaration.</p> <p>NOTE 2: Performance of building parts and “kits” is not covered by the harmonised product standards. Please refer to the relevant European Technical Approval and to the testing standards for resistance to fire.</p> <p style="text-align: right;"><i>Approved by SG19 on 2003-06-03</i></p> <p>Recent development:</p> <p>On the basis of answers from the member states’ fire regulators, the European Commission has reached a conclusion, which can be found in the document “RG N322”, dated 30 June 2003.</p> <p><i>Classification of the product as put on the market will always be necessary, i.e. the naked product must be classified.</i></p> <p><i>The Additional classification based upon end-use application may</i></p>	<p>Document from the European Commission, Enterprise Directorate-General, RG N322</p>

Question	Answer	References
	<p><i>also be included in the CE-marking for those countries which regulate on end-use application. This additional classification will be limited by the mounting and fixing configuration used in the testing and the end-use application(s) simulated.</i> <i>(Extract of document RG N322 by Anders Elbek, August 2003)</i></p> <p><i>Annexes to the product standards describing the mounting and fixing in the SBI-test are being developed in line with the above.</i></p> <p><i>Approved by SG 19 on 2006-09-20</i></p>	
<p>009</p> <p><i>Who is responsible for the grouping of the products?</i></p>	<p>The manufacturer</p> <p>According to clause 7 of the product standards the <i>manufacturer</i> may choose to group his products in accordance with EN13172, which allows grouping to be done property by property.</p> <p>The certification body will not have to approve the manufacturer's grouping.</p> <p><i>Approved by SG19 on 2003-06-03</i></p>	<p>Clause 7 of the product standards</p>
<p>010</p> <p><i>Who is responsible for the sampling for ITT</i></p>	<p>System 1: The certification body</p> <p>According to EN13172 clause B.2.3, sampling is done by the certification body with the manufacturer's representative present.</p> <p>The grouping done by the manufacturer will form the basis for the certification body's selection of products for initial type testing. On the basis of the ITT and other evidence, the certification body is certifying the conformity of the entire product group. The only way to ensure that all the products are in conformity is - in each group - to test the products, which have the highest risk of nonconformity for the particular property.</p> <p>This is a difficult task requiring a high level of competence from the certification body (see note 3).</p> <p>NOTE 3. To assist in the selection, the correlations established by the manufacturer for indirect testing (cf. EN13172 clause 5.3.5.2) may be used by the certification body.</p> <p><i>Approved by SG19 on 2003-06-03</i></p>	<p>EN 13172, B.2.3 EN 13172, 5.3.5.2</p>
<p>011 Revised</p> <p><i>Which properties shall the certification body check under system 1+3?</i></p>	<p>All parameters related to reaction to fire!</p> <p>For products which are not subject to regulations on reaction to fire, AVCP-system 3 applies ("Any intended use", cf. table ZA.2.1)</p> <p>For products in Euroclass A1, A2, B and C, AVCP-system 1 applies (unless the two-star footnote can be proven to be applicable) cf. table ZA.2.2.</p> <p>In this case, the AVCP system will be system 1 for fire and system 3 and 4 for other properties.</p> <p>However, Annex ZA states that for <i>products</i> under system 1, all relevant characteristics shall be of the interest of the approved body; <i>NAMELY</i> reaction to fire. For CE-marking, the relevant characteristics are found in table ZA.1.</p> <p>Thus, the certificate shall cover only the reaction to fire class.</p> <p>The certification shall be based on assessments covering all the product properties and processes influencing the reaction to fire classification.</p> <p>The importance of the identification of the product must be emphasised. The assessment must take into account all the parameters influencing the reaction to fire performance.</p> <p>Therefore, it should be made clear that examination related to</p>	<p>Annex ZA of the product standards</p>

Question	Answer	References
	<p>other characteristics should be limited to what is relevant for the reaction to fire performance.</p> <p>In the 2012-editions of EN 13162-13171, annexes ZA have changed. In the previous editions, the task for the notified certification body was defined as relating to all relevant characteristics, in particular reaction to fire classification.</p> <p>In the 2012 editions, the wording is changed to all relevant characteristics, <i>namely Characteristics related to reaction to fire</i></p> <p style="text-align: right;"><i>Approved by SG19 on 2013-09-19.</i></p>	
<p>012</p> <p><i>How many tests on thermal conductivity / thermal resistance shall be performed by a 3rd party for ITT?</i></p>	<p><i>In general: 4 tests, but under certain conditions it may be reduced to 2 tests</i></p> <p>The number of tests for ITT is regulated by EN 13172 clause C.2.2. It states that the samples shall be taken from four different production dates and that the thickness range declared by the manufacturer shall be covered.</p> <p>In annex ZA, clause ZA.2.2, of the product standards it is stated that initial type test of thermal resistance shall be carried by the approved body. All initial type testing is per product or product group per production unit (line).</p> <p>Thus, the number of tests to be carried out by a third party for ITT is 4 tests per product (group) for each production unit.</p> <p>However, where "historical lambda data" are available, it is possible to limit the number of new tests to be carried out from 4 to 2 tests, provided that the historical test results satisfy a number of conditions. For the definition of historical data and for further information on the conditions for using historical data, please refer to document "NB-CPD/01/064r3 - SG19 Guidance to notified bodies on the transitional arrangements for the CE-marking of thermal insulation products".</p> <p style="text-align: right;"><i>Approved by SG19 on 2003-06-03</i></p> <p><i>Added 2009-09-23:</i> The above-mentioned position paper has been approved with the document number NB-CPD/SG19/03/003.</p> <p style="text-align: right;"><i>Approved by SG19 on 2009-09-23</i></p>	<p>EN 13172 clause C.2.2 NB-CPD/01/064r3 NB-CPD/SG19/03/003</p>
<p>013</p> <p><i>When is it necessary to test more than one thickness in the SBI test?</i></p>	<p><i>When necessary in order to ensure that the worst case is covered</i></p> <p>In some cases, it is impossible to predetermine the thickness which would result in the worst behaviour in the SBI test. In these cases it will be necessary to test more than one thickness. In most cases, it will be possible to limit the suspected worst cases to two thicknesses, typically the maximum and minimum thicknesses.</p> <p>NOTE: For mineral wool products guidance is found in FSG recommendation 009..</p> <p style="text-align: right;"><i>Approved by SG19 on 2004-03-03</i></p> <p><i>Added 2009-09-23:</i> <i>The above issue is now dealt with by EN15715 and described in further detail.</i></p> <p><i>Note: Reference to FSG recommendation 009 is no longer relevant and hence replaced by reference to EN 15715.</i></p> <p style="text-align: right;"><i>Approved by SG19 on 2009-09-23</i></p>	<p>EN 15715</p>
<p>014</p> <p><i>What is the meaning of the</i></p>	<p><i>Tolerances apply to the individual specimen</i></p> <p>All requirements in chapter 4 are related to the test results</p>	<p>EN13162 clause 4.3.10</p>

Question	Answer	References
<p><i>tolerances for compressibility in EN 13162, table 3?</i></p>	<p>calculated as the mean value of the individual specimen measurements, except the thermal properties where the 90/90-principle apply.</p> <p>As regards compressibility an additional requirement for the tolerance of the single measurements apply. E.g., in class CP3 the compressibility may not exceed 3 mm as an average and the compressibility of the individual specimens may not exceed 5 mm.</p> <p style="text-align: right;"><i>Approved by SG19 on 2004-03-03</i></p> <p>AC:2005, Table 3 is revised in line with the above</p> <p style="text-align: right;"><i>Approved by SG 19 on 2006-09-20</i></p> <p>Added 2009-09-23:</p> <p><i>The above problem has been solved by EN13162:2008 by the addition of clause 4.3.10.3, note 2</i></p> <p style="text-align: right;"><i>Approved by SG19 on 2009-09-23</i></p>	
<p>015</p> <p><i>At which age shall the dimensional stability of EPS products be determined?</i></p>	<p><i>At an age not exceeding the lowest possible age when delivered to a customer</i></p> <p>The dimensional stability under constant climatic conditions is strongly dependent on the age of the product. The change of dimensions (in practice: shrinkage) are normally decreasing exponentially over time. Age is therefore a very crucial point in this regard. EN13163 clause 4.2.6 does not specify any limit; neither does the test standard, EN1603.</p> <p>Therefore, any product could pass the test provided that the test is carried out on samples of a certain age.</p> <p>Referring to the general “worst case” approach, the test should be initiated before the sample has reached an age which exceeds the age of the product at the earliest possible time of delivery to the customer.</p> <p style="text-align: right;"><i>Approved by SG19 on 2004-03-03</i></p>	<p>EN13163 clause 4.2.6</p>
<p>016</p> <p><i>Are products with special profiling in the edges covered by the standards?</i></p> <p><i>If they are, how to declare thermal properties?</i></p>	<p><i>In most cases yes, but there may be exceptions</i></p> <p>The lambda-value should normally not cause any trouble, as it does normally not depend on the shaping.</p> <p>The R-value is more difficult. It is not clear how to determine the R-value on products with a special shaping of the edges; e.g. a profiling allowing for special fixing systems. It would obviously not be correct to determine the R-value as if the cross-section were rectangular. On the other hand, if the actual shape is taken into account in a detailed two-dimensional calculation, it would not necessarily be more correct as such a calculation could not predict the influence of fixtures etc.</p> <p>The SG19 recommends the R-value to be determined on the basis of the central, uniform, rectangular part of the cross-section. It should be stated in the declaration of conformity that the R-value does not apply to the full area of the product and that this should be taken into account by the building designer. However, the applicability of the above principle should be considered in each case.</p> <p style="text-align: right;"><i>Approved by SG19 on 2004-03-03</i></p>	<p>Product standards EN13162-13171, clause 4.2.1</p>
<p>017</p> <p><i>Which properties are covered by the designation code?</i></p>	<p><i>Thermal properties, euroclass and dimensions are stated separately on the label. All other harmonised properties are covered by the designation code</i></p>	

Question	Answer	References
(017 continued)	<p>The first part of the designation code is the reference to the product standard, e.g. “EPS-EN13163”. This reference is stating that the product meets all the basic requirements of clause 4.2 (limit values).</p> <p>Additionally, clause 4.2 gives different classes for some properties. These classes are indicated by the designation code. E.g. thickness tolerances are declared by the letter “T” and one digit (T1, T2, T3 etc.).</p> <p>The “voluntary” harmonised properties in clause 4.3 are always mentioned in the designation code, when declared.</p> <p>However, annex ZA is limiting the harmonisation to the properties mentioned in table ZA.1. This implies that some of the properties are not referenced by the designation code for CE-marking.</p> <p>For instance, some of the product standards are giving different classes for tolerances on squareness, flatness etc. These properties are not harmonised and therefore they are not covered by the designation code for CE-marking.</p> <p>Further, annex ZA is opening for the so-called "NPD-option", even for some of the harmonised requirements of chapter 4.2.</p> <p>This is not foreseen by the product standards and the designation code cannot indicate whether the NPD-option is used on requirements of chapter 4.2.</p> <p>Therefore, in order to avoid confusion of the market, it must be stated clearly on the product label if the NPD-option is used on harmonised requirements of chapter 4.2.</p> <p>Examples:</p> <p>For mineral wool, there are 3 possible declarations on dimensional stability.</p> <p>4.2.6. Dimensional stability at 23°C/ 90%RH. This is a basic requirement covered by the reference “MW-EN13162”. No additional code.</p> <p>4.3.2.1 Dimensional stability at 70°C/ 50%RH. This is a “voluntary” requirement indicated by the letters “DS(T+)” in the designation code.</p> <p>4.3.2.2 Dimensional stability at 70°C/ 90%RH. This is also a “voluntary” requirement indicated by the letters “DS(TH)” in the designation code.</p> <p>In case the NPD-option is used regarding dimensional stability, it must stated clearly on the label . Example: "<i>Dimensional stability: No performance determined</i>".</p> <p>For EPS, there are several possible declarations on bending strength.</p> <p>4.2.7. Bending strength minimum level at 50 kPa. This is a basic requirement covered by the reference “EPS-EN13163” and it may also be indicated by the letters "BS50".</p> <p>4.3.6 Bending strength declared at levels mentioned in table 7 of the product standard and indicated by the letters "BSxxx". <i>(to be continued)</i></p> <p>In case the NPD-option is used regarding bending strength, it must stated clearly on the label. Example: "<i>Bending strength: No performance determined</i>".</p> <p style="text-align: right;"><i>Approved by SG19 on 2005-09-21</i></p>	

Question	Answer	References
<p>018 How to declare properties which depend on the thickness of the product?</p>	<p>Declare the “worst case” value or divide the thickness range into two or more thickness intervals with different declarations</p> <p>Some properties are strongly depending on the thickness.</p> <p>This is evidently the case for properties such as dynamic stiffness and sound absorption, but even reaction to fire and compression behaviour may in some cases depend on the thickness.</p> <p>Example:</p> <p>If, for instance, a product is manufactured in the range from 15 to 35 mm, the dynamic stiffness would always be better on the higher thicknesses.</p> <p>There are two ways of handling this problem.</p> <ol style="list-style-type: none"> 1) Divide the thickness range into minor intervals with individual declarations. In the interval from 15 to 24 mm the value obtained by testing 15 mm specimens could be declared. In the interval from 25 to 35 mm the value obtained by testing 25 mm specimens could be declared. Remember that each thickness interval should be considered a separate product (group) as regards dynamic stiffness. Thus, ITT and FPC shall be performed in each thickness interval. 2) Declare the value obtained by the less favourable thickness of the entire range. <p style="text-align: right;"><i>Approved by SG19 on 2005-09-21</i></p>	
<p>019 What is the relation between indirect testing and testing frequencies?</p>	<p>The FPC testing frequencies for direct testing may be lowered if indirect testing is used correctly</p> <p>(Results of indirect testing may not be included in the calculation of lambda 90/90)</p> <p>Annex B of the product standards lists the testing frequencies for testing the individual properties in the FPC. Methods for direct testing are given by reference to the clause in chapter 4.</p> <p>For some properties, methods for indirect testing and the corresponding frequencies are stated as well.</p> <p>The provisions for using indirect testing is given by EN13172, clause 5.3.5.2:</p> <ul style="list-style-type: none"> - Correlation established by suitable statistical means for each unit (line); re-examined at prescribed intervals and after changes. - Sampling plan and compliance criteria defined. - At least same confidence interval as when using direct testing. <p>In case of dispute, direct testing shall be carried out.</p> <p>The frequencies for direct testing, cf. annex B of the product standards, are given under the presumption that the above mentioned requirements for indirect testing are fulfilled.</p> <p>If the requirements are not fulfilled, the last paragraph of EN13172, 5.3.5.2 applies: <i>In case of dispute, direct testing shall be used.</i></p> <p>In this case, the direct testing shall be performed at the frequency stated under indirect testing. <i>(to be continued)</i></p> <p>Example:</p> <p>In the mineral wool standard EN13162 compressive strength is tested according to EN826 once per 8 hours and indirectly by testing the organic content once per 4 hours and the apparent density once per hour.</p>	<p>Annex B of the product standards. EN 13172 clause 5.3.5.2.</p>

Question	Answer	References
	<p>Thus, compressive strength is tested once per hour by using indirect testing every hour and by direct testing once per 8 hours.</p> <p>The correlation between density, organic content, and compressive strength shall be established (and re-examined at prescribed intervals) for each production unit. Sampling plan and acceptance criteria based on the correlation shall be defined.</p> <p>If the above mentioned requirements are not fulfilled, compressive strength shall be tested directly once per hour (minimum).</p> <p style="text-align: right;"><i>Approved by SG19 on 2004-03-03</i></p>	
<p>020 <i>Which test methods shall be used for reaction to fire of a mineral wool product intended for use in a floor; e.g. a floor to ground insulation.</i></p>	<p><i>The test methods referenced by the product standard</i></p> <p>When testing fire properties (if classification on reaction to fire is required), the test methods depend on the expected classification.</p> <p>The test methods for mineral wool are referenced by table B.2 of EN13162.</p> <p>These test methods apply regardless of the intended application of the product.</p> <p style="text-align: right;"><i>Approved by SG19 on 2004-03-03</i></p>	<p>EN13162, table B.2</p>
<p>021 <i>How to declare thermal properties of tapered boards?</i></p>	<p><i>Only the lambda value is declared:</i></p> <p>The new amendments and corrections, AC:2005 to the product standards require only the thermal conductivity declared - not the thermal resistances.</p> <p>Thermal conductivity is determined as for products with rectangular cross-section .</p> <p style="text-align: right;"><i>Approved by SG19 on 2006-09-20</i></p> <p><i>Added 2009-09-23:</i></p> <p><i>Reference is updated to the 2008-versions of the standards.</i></p> <p style="text-align: right;"><i>Approved by SG19 on 2006-09-23</i></p>	<p>2008-versions of the product standards, clause 4.2.1</p>
<p>022 <i>How to declare other properties (not thermal) of products with non-rectangular cross-sections?</i></p>	<p>The product standards and the testing standards describe rather detailed how to measure and declare the geometrical and thermal properties of products with rectangular cross sections. However, products are manufactured with many different shapings, e.g. products with profiled edges and taperings (non-parallel faces). As only rectangular cross-sections are foreseen by the standards, it is necessary to make an interpretation of the standards to cover these products as well.</p> <p><i>Interpretations must be done case by case</i></p> <p style="text-align: right;"><i>Approved by SG19 on 2006-09-20</i></p>	
<p>023 <i>Audit frequencies</i></p>	<p><i>EN 13172 requires inspections "normally be performed twice a year".</i></p> <p>In this case, "normally" refers to the situations <i>not</i> covered by clause B2.4.4, which gives the conditions for extraordinary inspections.</p> <p>This means that audits must be carried out twice per year unless extraordinary inspections are carried out according to clause B.2.4.4.</p> <p><i>A more precise wording is expected by the coming revision of EN13172.</i></p> <p style="text-align: right;"><i>Approved by SG 19 on 2006-09-20</i></p>	<p>EN13172 clause B.2.4.2.</p>
<p>024</p>	<p><i>Reference samples must be calibrated by appropriate intervals</i></p>	<p>EN13172, table 1.</p>

Question	Answer	References
<p>Frequencies for calibrating reference samples</p>	<p>According to table 1 of EN13172 reference samples must be calibrated at a minimum frequency of once per 3 years. It has been acknowledged by TC88/WG16, that this requirement in many cases would not be justified.</p> <p>Therefore, TC88/WG16 has asked SG19 to take a pragmatic approach to this requirement and accept calibration of reference samples "<i>as appropriate</i>".</p> <p>A revised table 1 without the present right column is expected by the coming revision of EN13172.</p> <p style="text-align: center;"><i>Approved by SG19 on 2005-09-21, cf. GNB SG19 N81</i></p> <p>Added 2009-09-23:</p> <p>EN 13172:2008 has solved the problem as stated above.</p> <p style="text-align: right;"><i>Approved by SG19 on 2009-09-23</i></p>	
<p>025</p> <p>Mounting of substrates for the SBI test- should the corner be open or closed?</p>	<p><i>Should the substrate close the corner or should the corner be left open?</i></p> <p>According to the current standard the corner of the substrate must leave an opening at the width of the specimen thickness. At the moment, within CEN TC127 it is being discussed by a task group to revise the standard with regard to closing the corners, but no decision has been reached at TC level.</p> <p>For the time being, the current standard applies, i.e. the substrates must NOT close the corner.</p> <p style="text-align: right;"><i>Approved by SG19 on 2006-09-20</i></p> <p>Added 2009-09-23 References corrected</p> <p style="text-align: right;"><i>Approved by SG19 on 2009-09-23</i></p>	<p>EN13823 EN13238</p>
<p>026</p> <p>How to determine compressive strength in case a peak occurs before 10% deflection</p>	<p><i>The peak force is applied - not the force at 10% deflection</i></p> <p>EN 826 gives various examples of typical force-displacement curves. For each of the examples, it is indicated at which point to determine the force to use as basis for the calculated strength/stress.</p> <p>In example b), a peak is found before the deflection has reached 10%.</p> <p>This example covers in principle all instances of clearly identifiable decrease in the force.</p> <p>I.e. if a clearly identifiable decrease is detected, the test may be interrupted and the peak value used.</p> <p>If a "break" in the curve occurs without any decrease in the force, the force corresponding to 10% deflection applies</p> <p style="text-align: right;"><i>Approved by SG19 on 2006-09-20</i></p>	<p>EN826 figure 1, example b</p>
<p>027</p> <p>At what time after production shall the thermal conductivity of EPS boards be measured?</p>	<p><i>Not until the thermal conductivity has reached a stable level</i></p> <p>For some EPS-products, the thermal conductivity may change within the first time period after production (so-called "conditioning effect").</p> <p>To declare thermal properties that reflect the values during the expected life time of the product (cf. EN 13163, clause A.1), the manufacturer must ensure that measurements are not carried out until the thermal conductivity has reached it's final level, or that</p>	<p>EN 13163, clause A.1</p>

Question	Answer	References
(027 continued)	<p>the conditioning effect is taken into account, e.g. by an accelerated procedure as described below.</p> <p>To determine whether or not a conditioning effect is significant, the following procedure may be used:</p> <ol style="list-style-type: none"> 1. Sample conditioning according to Chapter 5.2 of EN 13163 (min. 6 hours, max. 3 days) 2. Measurement of Lambda according to EN 12667 3. Storage at 60 °C for seven days 4. Second measurement of Lambda according to EN 12667 <p>If the increase of thermal conductivity between the above steps 2 and 4 does not exceed 1 %, the conditioning effect may be deemed insignificant.</p> <p>If the increase exceeds 1 %, the manufacturer (and the notified body involved) have to ensure that the conditioning effect is known, i.e. the time and temperature dependence, e.g. by repeating steps 3 and 4 until stability is obtained, or by an indirect procedure like a cell gas analysis.</p> <p>The necessary conditioning time may vary due to material properties, e.g. thickness, density, and elastification. For un-elastified samples of 50 mm thickness and a density range of 15 to 25 kg/m³ the above procedure is deemed sufficient.</p> <p style="text-align: right;"><i>Approved by SG19 on 2006-09-20</i></p>	
<p>028</p> <p><i>How to speed up the certification process if the required ITT include long term testing ?</i></p>	<p><i>Case by case assessment!</i></p> <p>At present, it is being discussed in TC88 WG16 if it would be justifiable to adapt the requirements for new production facilities.</p> <p>In special cases, for manufacturers who have already similar products from other production units certified, a certification body may make a provisional decision on certification. In this regard the risk for the final decision being different from the provisional one must be identified and dealt with.</p> <p>The obligation for the manufacturer to apply EN13172 clause 5.5 to any non-conforming product must be emphasised.</p> <p>In such cases, the final decision by the certification body must be taken within a specified time period not exceeding six months.</p> <p style="text-align: right;"><i>Approved by SG19 on 2008-09-18</i></p>	SG19 N96
<p>029</p> <p><i>If a standard gives 2 alternative methods, which one should be preferred?</i></p>	<p><i>The manufacturer is free to decide</i></p> <p>In some standards, there is more than one methods of determining specific characteristics.</p> <p>For instance, EN13165 and EN13166 allows for determination of thermal conductivity after accelerated ageing or by adding a fixed increment.</p> <p>The certification body cannot require the manufacturer to choose any particular method.</p> <p>The manufacturer is free to choose between the methods called-up by the harmonised standard.</p>	SG19 N96.

Question	Answer	References
	<i>Approved by SG19 on 2008-09-18</i>	
<p>030</p> <p><i>How to determine the correct AoC system for products in Euroclasses A1, A2, B, C ?</i></p>	<p><i>AoC System 1 applies unless otherwise proven</i></p> <p>Background: In the marketplace, similar products are available with similar declarations but with different AoC systems applied.</p> <p>Normally, mineral wool products with declared Euroclass A1 are CE-marked using AoC system 1. However, in some cases mineral wool are found CE-marked under AoC System 3.</p> <p>Answer: The one-star footnote of table ZA.2.2 of the product standard points out system 1 for <i>products/materials for which a clearly identifiable stage in the production process results in an improvement of the reaction to fire classification (e.g. an addition of fire retardant or a limiting of organic material)</i>.</p> <p>The above rather cryptic text is applied to a wide range of construction products and it is not specifically aimed at thermal insulation products.</p> <p>In the context of thermal insulation products, it should be understood that the one-star footnote covers all thermal insulation products for which the fulfilment of the declared Euroclass depends on the manufacturer's controlling of the process.</p> <p><i>Thus, for any product in Euroclasses A1, A2, B, and C, attestation of conformity system 1 applies, unless the declared Euroclass will be met regardless of the manufacturer's controlling of the production process. (Often referred to as 'performance not susceptible to changes')</i></p> <p>To avoid misinterpretations of the rather cryptic footnotes, <i>note 1</i> has been added to clause 7 of the product standards requiring the manufacturer to <i>demonstrate</i> to a notified body that <i>'no stage in the production process will result in an improvement of the reaction to fire classification'</i>.</p> <p>In this context the <i>'notified body'</i> is understood as notified <i>certification</i> body.</p> <p><i>A manufacturer</i> wishing to apply AoC system 3 to a product in Euroclass A1, A2, B, or C should - before he makes the final decision on choice of AoC system - ask a notified certification body to verify that the declared Euroclass performance is not <i>susceptible to changes</i>.</p> <p><i>Notified laboratories</i> being requested by a manufacturer to verify that a product is not susceptible to changes, should not accept to perform such verification, but advise the manufacturer to contact a notified certification body.</p> <p><i>A certification body</i> must apply the same techniques for the verification as for conformity certification (evaluation of test reports, FPC documentation, on-site audit etc.). A written statement should be issued indicating whether or not the manufacturer's demonstration has been verified.</p> <p style="text-align: center;"><i>Approved by SG19 on 2008-09-18</i></p>	<p>EN13162-13171:</p> <ul style="list-style-type: none"> - Clause. 7 - Footnotes of table ZA.2.2 - SG19 N27 - NB-CPD/06/234 rev.1

Question	Answer	References
<p>031</p> <p>Should the surface structure of specimens be retained when testing Maximum Service Temperature according to EN 14706?</p>	<p>YES - the surface should be retained.</p> <p>Products delivered with a 'curing oven pattern' may obtain different test results depending on whether the surface is ground smooth before testing or if the surface structure is retained as delivered.</p> <p>To facilitate equivalent test results, specimens should have the same surface structure as the delivered product. No grinding should be carried out before testing.</p> <p style="text-align: right;"><i>Approved by SG19 on 2008-09-18</i></p> <p><i>Added on 2009-09-23:</i> For mineral wool, however, the below modification apply, cf. EN 14706, A.1.1: "For wired mats, the wire and the stitching are removed before testing. Any existing profile on the surface of boards has to be cut off. Facings are not removed".</p> <p style="text-align: right;"><i>Approved by SG19 on 2009-09-23</i></p>	<p>EN14706, annex A.</p>
<p>032</p> <p>Emissivity of thermo couple fixings in high temperature testing:</p> <p><i>What emissivity should be chosen?</i></p>	<p>An emissivity similar to the emissivity of the facing of the specimen.</p> <p>When testing according to EN ISO 8497, the emissivity of the fixing tape may influence the test results. Hence it is important that the tape used for fixing the thermocouples does not have a emissivity significantly deviating from the emissivity of the pipe section tested.</p> <p>If for instance the specimen is equipped with an aluminium facing, the thermo couples should be fixed using tape with a similar surface, e.g. by applying an adhesive to a piece of the aluminium foil.</p> <p style="text-align: right;"><i>Approved by SG19 on 2008-09-18</i></p>	
<p>033</p> <p>How to interpret the 3 years rule for historical test results ?</p>	<p>Age at the time of the initial declaration of conformity is decisive.</p> <p>In the approved guidance from SG19 regarding use of historical data (NB-CPD/SG19/03/003) it is required that historic data used as basis for declaring thermal properties should not be more than 3 years old.</p> <p>For the implementation of the WG10 standards for building equipment and industrial insulation similar guidance is being prepared (<i>NB SG 19 N 108 draft 2009</i>).</p> <p>The 3 years age should be understood as the age of the test report at the time of the initial declaration of conformity for the product.</p> <p>For product under AoC system 3, the age of the data is to be checked by the manufacturer before issuing of a declaration of conformity.</p> <p>For products under AoC system 1, the age of the data is to be checked by the manufacturer before submitting the data to the certification body and the certification body verifies before issuing a certificate that the historic data are not more than 3 years old.</p> <p>Once the declaration of conformity is drawn up, it is not necessary to renew the ITT documentation.</p>	<p>NB-CPD/SG19/03/003 - clause 2 b).</p>

Question	Answer	References
	<i>Approved by SG19 on 2008-09-18</i>	
<p>034</p> <p>Which load to apply to low-density products For testing Maximum Service Temperature?</p>	<p><i>The load shall be reduced if necessary to avoid too much initial deflection</i></p> <p>This question was first raised in 2008. At that time, the WG10 standards were not yet applicable. Therefore SG 19 decided to refer the question to TC88.</p> <p>The question has now been dealt with by the 2012-edition of EN 14706 (approved but not yet published) of which clause A.3.1 states:</p> <p><i>The test load shall be 500 Pa. If necessary the test load shall be reduced stepwise to 250 Pa or 100 Pa to ensure that the thickness (d1) is at least 95 % of the thickness (d0) and the load used shall be declared.</i></p> <p style="text-align: right;"><i>Text proposed by Anders Elbek on 2012-09-21</i></p>	<p><i>prEN 14706:2012, clause A.3.1.</i></p>
<p>035</p> <p>What is the maximum lambda value for wood wool under EN13168</p>	<p><i>The scope of EN13168 is limited to products with a thermal conductivity up to 0,1 W/mK.</i></p> <p>This is indicated by only 1 significant figure, whereas thermal conductivity is declared with 3 significant figures in the case of the thermal conductivity being larger than or equal to 0,1 W/m K.</p> <p><i>For Wood Wool it is confirmed by TC 88 WG 9 that the upper limit value of application of the EN 13168 is 0,149 W/m K, using normal rounding rules</i></p> <p style="text-align: right;"><i>Approved by SG19 on 2009-09-23</i></p>	
<p>036</p> <p>Is it acceptable to omit mandated characteristics if not regulated in a relevant country</p>	<p>Yes, table ZA.1 in Annex ZA footnote makes this possible, but</p> <p><i>SG 19 recommends keeping a unique declaration for a product including all the declared characteristics whatever country the product is placed on the market to avoid confusion in the market.</i></p> <p style="text-align: right;"><i>Approved by SG19 on 2009-09-23</i></p>	
<p>037</p> <p>How to interpret the term Water permeability in annex ZA of EN 14303-14309, 14313 & 14314</p>	<p><i>Water permeability is Water absorption.</i></p> <p>The tables ZA.1 and ZA.3 in annex ZA of several of these standards are giving conflicting information. CEN/TC 88 is recommended to clarify this.</p> <p>The Water Vapour Permeability is a separate characteristic (normally more relevant than water absorption). The reference in the EN 14303-14309, 14313 & 14314 standards, both in clause 4 and annex ZA needs to be checked too by TC 88 for clarification.</p> <p style="text-align: right;"><i>Approved by SG19 on 2009-09-23</i></p>	
<p>038</p> <p>How to measure and declare lambda for HVAC products used at 40 or 50°C? Is it necessary to declare a curve and measure many points?</p>	<p><i>To declare thermal conductivity, a lambda curve must be defined</i></p> <p><i>Lambda declarations according to EN 14303 though EN 14314 must be based on a curve based on measurements at minimum 3 different temperatures. To cover the temperature range, measurements at more than 3 mean temperatures may be needed, cf. EN 13787.</i></p> <p><i>The above principle is different from the standards for building insulation products according to which declarations of thermal properties are based on measurements at a single mean temperature - 10 degree C.</i></p>	<p>Clause 4.2 of EN 14303 through EN 14314 EN 13787</p>

Question	Answer	References
	<i>Approved by Sector Group 19 on 2012-09-19</i>	
039 Is it possible to declare a maximum service temperature without declaring thermal conductivity. Is the lambda curve necessary?	<p><i>If the thermal conductivity is not declared, the product is not covered by the product standards</i></p> <p><i>For all TC88 standards, declaration of thermal resistance/thermal conductivity is obligatory. Products without declared thermal characteristics are not covered by the TC88 standards and cannot be CE-marked with reference to TC88 standards.</i></p> <p><i>If a Maximum Service Temperature (MST) is declared, the lambda curve must be declared for the temperature range up to the MST. However, as the MST is defined by the hot side of the test specimens, the lambda is defined at the mean temperature. Thus the MST can exceed the highest temperature for which lambda is declared. For Flat products the difference between MST and the upper end of the lambda curve would normally be smaller than for pipe sections.</i></p> <p style="text-align: center;"><i>Approved by Sector Group 19 on 2012-09-19</i></p>	Clause 4.2 of all CEN/TC 88 Product standards.
040 May the number of fire tests on pipe sections be reduced if the 'worst case' is known?	<p><i>No, the number of tests are fixed by the standards</i></p> <p><i>Clause 4.2.4 of the product standards refer to EN 15715 that requires 3 measurements for each thickness interval.</i></p> <p><i>The document SG 19 N 113 gives a more detailed description</i></p> <p style="text-align: center;"><i>Approved by Sector Group 19 on 2012-09-19</i></p>	
041 How to determine the dimensions on pipe sections that may be used on a range of pipe diameters?	<p><i>The manufacturer must decide</i></p> <p><i>Some pipe sections are made with a flexible inner diameter allowing the pipe sections to be used on pipe diameters varying over a narrow range</i></p> <p><i>The manufacturer is entitled to decide on separate declarations depending on the diameter of the pipe.</i></p> <p><i>As the thickness of the pipe may influence several declared characteristics the conformity of the product must be evaluated for each thickness, characteristic by characteristic.</i></p> <p><i>However, the manufacturer may also decide for each characteristic to declare a worst case covering the span of thicknesses for which the pipe section may be used.</i></p> <p style="text-align: center;"><i>Approved by Sector Group 19 on 2012-09-19</i></p>	
042 How to deal with small companies producing on the basis of finished products delivered by another company, e.g. by cutting pipe sections from EPS block	<p><i>The requirements do not depend on the organisation behind the production.</i></p> <p><i>The manufacturer placing the finished product on the market is the manufacturer in the sense of the CPD. This means that he will have full responsibility for the entire product, its performance, conformity and the CE-marking.</i></p> <p><i>The manufacturer is of course free to subcontract any part of the manufacturing process and/or the FPC, but that does not reduce the extent of the documentation he must be able to present.</i></p> <p style="text-align: center;"><i>Approved by Sector Group 19 on 2012-09-19</i></p>	
043 Which load should be applied when measuring thickness of wired	<p><i>The manufacturers choice</i></p> <p><i>EN 14303 gives two options; 50 Pa or 1000 Pa.</i></p> <p><i>The manufacturer may choose on of the two options – or in special cases - even both of them.</i></p>	EN 14303 clause 4.2.2.1

Question	Answer	References
matts?	<i>If both options are used, the declarations of all other characteristics influenced by the thickness must be declared separately or on the safe side covering both options.</i> <i>Approved by Sector Group 19 on 2012-09-19</i>	

<p>044 How to determine minimum densities for mineral wool loose-fill in cavities or closed compartments</p>	<p>EN 14064-1 gives two possibilities for determining the minimum densities for installing in closed cavities and frame constructions.</p> <ol style="list-style-type: none"> 1) Densities confirmed by relevant authorities, or 2) Tabulated values, cf. table 2 of EN 14064-1 <p>As the authorities of some member states do not 'confirm' specific densities and as no harmonized test methods have been developed for settlement in cavities or closed compartments, the criteria for applying the above option 1 remain unclear.</p> <p>The tabulated densities of table 2 of EN 14064-1 are conservative safe-side values taking into account that loose-fill products may be made from non-specified mineral wool raw materials spread over a wide range of densities and maybe even including waste from other mineral wool products.</p> <p>It is however a well-known fact that it is possible to produce loose-fill mineral wool with much lower stable, settlement free densities by applying a continuous production process and by controlling the intermediate stages of the production.</p> <p>In such cases, the tabulated values would often be far too conservative or even impossible to apply in practice.</p> <p>Therefore, it is necessary to have the possibility to declare lower densities – not only in cases where specific densities are confirmed by national authorities.</p> <p>Guidance:</p> <p>Notified bodies may accept a declaration of class S1 for lower densities providing that the below criteria are met:</p> <ol style="list-style-type: none"> 1) Tests according to national test methods support the declaration of class S1 ("no measurable settlement") at the specified density. 2) The loose-fill product is based on mineral wool designed specifically for obtaining lower density when installed on-site. 3) Continuous production process with control of density at intermediate stages including control of density after curing. 4) The manufacturer demonstrates that complaints or feedback from clients, users, or other stakeholders do not raise any doubt as to the fulfilment of class S1. <p><i>Added on 2013-09-19: A test method regarding settlement in loose-fill installed in closed compartments is being developed. When the test method becomes available, the above guidance will be revised.</i></p> <p style="text-align: right;"><i>Approved by Sector Group 19 on 2013-09-19</i></p>	<p>EN 14064-1, table 2</p>
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<p>045 Is it obligatory to test 'compressive creep' on mineral wool products?</p> <p>If 'compressive creep' is tested, should the test be performed by the notified body or the manufacturer?</p>	<p><i>Compressive creep needs only be tested if declared by the manufacturer.</i></p> <p>Although EN 13162:2008, clause 4.2.9.4 identifies the requirements on compressive creep as covering the requirements on durability of compressive strength, the manufacturer is free to decide whether or not to declare any performance with regard to compressive creep.</p> <p>Clause 4.2.9 was introduced by the 2008-version due to the use of a new template. It was not the intention to make it obligatory to test compressive creep.</p> <p>In case the manufacturer chooses to declare a compressive creep performance, the initial type test will fall under the responsibility of the manufacturer – not the notified body, cf. table ZA.3</p> <p><i>Approved by Sector Group 19 on 2012-09-19 - agreed by TC88.</i></p>	<p>EN 13162 clause 4.2.9.4 EN 13162 clause 4.3.6 EN 13162 Table ZA.1 EN 13162 Table ZA.3 TC 88 resolution no. 545, Malaga, 2011-12-09</p>
<p>046 What rounding rules apply to the settlement classes of EN 14064-1</p>	<p><i>The normal rounding rules apply</i></p> <p>EN 14064-1 clause 4.2.3.2 defines 3 classes for settlement:</p> <p>S1: ≤1%; S2: > 1% and ≤ 5 %. S3: > 5% and ≤ 10%</p> <p>As the limits between the classes are given as integer percentages, the test results must be rounded to the nearest integer percentage before the class is chosen.</p> <ol style="list-style-type: none"> 1. Clause K.4 indicates that for each sample, the thickness is measured at 9 positions. The reading is rounded to the nearest integer mm. 2. Clause K.5 gives the definition of the thickness of the sample, as the mean value of the 9 readings. The thickness, as the reading of nine values rounded to the nearest millimeter, must also be rounded to the nearest millimeter. 3. The percentage <i>s</i> of settlement, result of the ITT, is given by the formula : $s = \frac{1}{2} \left(\frac{e_{i1} - e_{f1}}{e_{i1}} + \frac{e_{i2} - e_{f2}}{e_{i2}} \right)$ <p>Where :</p> <p>e_{ik} is the initial thickness of sample $k \in [1; 2]$, before cycle 1 (beginning of the test)</p> <p>e_{fk} is the final thickness of sample $k \in [1; 2]$, after cycle no. 4 (end of the test).</p> <p>Each thickness is defined according to above no. 2.</p> <p>Example: A MW product is tested in accordance with annex K and the test result is a settlement of 1,31 % (annex K does not define how many significant figures to indicate). Following the normal rounding rules, 1,31 % is rounded downwards to 1 %, and class S1 may be chosen.</p> <p><i>Approved by Sector Group 19 on 2012-09-19</i></p>	<p>EN 14064-1 clause 4.2.3.2 EN 14064-1 annex K TC 88 resolution no. 545, Malaga, 2011-12-09</p>

<p>047 What settlement values should form basis for performance charts for loft applications. The declared class or the ITT-result?</p>	<p><i>The upper limit value for the declared class of settlement shall be used.</i></p> <p><i>The standard is not unambiguous at this point, and notified bodies have made different interpretations. Therefore, the question was referred to TC88 for clarification.</i></p> <p><i>TC88 has indicated that the intention behind defining 3 classes was to use the upper limit values for each class as this would ensure transparency and give safe-side values.</i></p> <p><i>Hence, the settlement, "s" should be the upper limit value for the declared class of settlement, i.e. classes</i></p> <p style="margin-left: 40px;"><i>S1: s=1%</i> <i>S2: s=5%</i> <i>S3: s=10%</i></p> <p><i>In performance charts for loft applications, the "minimum installed thickness" is calculated by adding the expected settlement to the "thickness after settlement" using formula H.2: $d_{\text{before}} = d/(1-s)$</i></p> <p><i>Manufacturers and notified bodies should be aware that a proposal for revision of the clauses on settlement has been forwarded to TC88.</i></p> <p style="text-align: right;"><i>Approved by Sector Group 19 on 2012-09-19</i></p>	<p>EN 14064-1 annex H EN 14064-1, clause 4.2.3.2 TC 88 resolution no.545, Malaga, 2011-12-09</p>
<p>048 Is it always necessary to document maximum service temperature for MW products for HVAC purposes?</p>	<p><i>For lambda declarations not exceeding 150 °C, declaration of MST would normally not be required.</i></p> <p><i>EN 14303 does not define any service temperature to assume without any documentation.</i></p> <p><i>The draft amendment to EN14303:2009 suggests the below addition to clause 4.3.2</i></p> <p><i>"The maximum service temperature test needs not to be done for declaration of thermal conductivity ≤ 150 °C under the condition that the binder used is cured at temperatures > 200 °C."</i></p> <p><i>To avoid unnecessary burdens on the manufacturers, notified bodies may anticipate the approval of the draft amendment.</i></p> <p style="text-align: right;"><i>Approved by Sector Group 19 on 2012-09-19</i></p>	<p>EN 14303 clause 4.3.2 FprEN14303:2009/A1:May 2012</p>
<p>049 How to classify a product for which the reaction to fire depends on which of the faces that is exposed in the SBI test?</p>	<p><i>To options exist:</i></p> <ol style="list-style-type: none"> <i>1) Declare the worst case, or</i> <i>2) Make separate declarations for each of the faces.</i> <p><i>To identify the worst case, testing of both faces would be required. If Euroclass F is declared for one of the faces that face would not need to be subjected to test.</i></p> <p><i>It should be noted that separate declarations would require that the individual faces be indicated clearly and visibly by the marking and labelling.</i></p> <p><i>Additionally, certification bodies should note that separate declarations for the two faces would be 'a particular condition applicable to the use of the product' and that such particular conditions should be indicated by the certificates.</i></p> <p><i>Furthermore, certification bodies should be aware that only classes A1, A2, b and C may be subject to AoC system 1(AVCP</i></p>	<p>EN 15715 EN 13162 annex ZA 2.2</p>

	<p><i>system 1) and that assessment of classes D, E and F would not fall under the tasks of the certification bodies. etc.);</i></p> <p>Example: <i>A product is classified as A1 when tested on one of the faces. When tested on the other face, the result is only class F (does not meet Euroclass E).</i></p> <p><i>The manufacturer may of course declare Euroclass F for the entire product. However, Euroclass A1 may be declared for one of the faces provided that the faces are clearly and visibly indicated by the marking and labelling of the product.</i></p> <p><i>The certification body should indicate in the certificate that the declared class A1 is only valid for one of the faces.</i></p> <p style="text-align: right;"><i>Approved by Sector Group 19 on 2012-09-19</i></p>	
<p>050 How to declare products combining two or more types of thermal insulation materials?</p>	<p><i>In general, products combining two or more types of thermal insulation materials are not covered by the present TC88 standards.</i></p> <p><i>In principle, the manufacturer is entitled to declare a product in conformity with a standard if that standard is suitable to demonstrate that the product meets the requirements applicable to the intended use in the relevant member state.</i></p> <p><i>However, notified bodies should be aware that TC88 standards are only intended to cover products falling under a single standard and therefore it seems unlikely that any of the standards should be suitable to describe products combining two or more types of materials.</i></p> <p><i>For the above reason it seems more relevant for the manufacturer to apply for an ETA (European technical approval or European technical Assessment).</i></p> <p>Example: <i>For a product consisting of mineral wool fibres and wood fibres, would it be possible for the producer to declare conformity to both EN13162 and EN13168 and write 2 separate designation codes on the CE marking declaration?</i></p> <p><i>Sector Group 19 would not recommend the described solution but refer the manufacturer to apply for an ETA.</i></p> <p style="text-align: right;"><i>Approved by Sector Group 19 on 2012-09-19</i></p>	<p><i>EN 13162 through EN 13171.</i></p>

<p>051 How many lambda curves should be determined for ITT for building equipment and industrial insulation?</p>	<p><i>The number is described in a separate SG 19 position paper.</i></p> <p><i>The tests required for the building equipment and industrial insulation are described by the separate SG 19 position paper:</i></p> <p><i>NB-CPD/SG19/11/085 - ITT of factory made thermal insulation products for building equipment and industrial installations</i></p> <p><i>In general, one curve (based on one ITT) is required for flat products and 4 curves (based on 4 ITT tests) are required for cylindrical product.</i></p> <p><i>Clause 7 of the above paper describes the matter in detail.</i></p> <p><i>Approved by Sector Group 19 on 2012-09-19</i></p>	<p><i>NB-CPD/SG19/11/085, clause 7</i></p>
<p>052 What tests should an EPS or XPS manufacturer conduct upon change of fire retardant?</p>	<p><i>ITT must be repeated for all characteristics likely to be affected by the change.</i></p> <p>Unless all ITTs are repeated, an assessment must be made of the likeliness of the product no longer meeting the declaration, and it must be justified that omission of new tests does not put the conformity at risk.</p> <p>Omission of Reaction to fire tests would normally not be recommendable.</p> <p>The following characteristics are normally considered likely to be affected:</p> <ul style="list-style-type: none"> - Thermal conductivity - Compressive strength - Bending strength. <p>A manufacturer not repeating ITT for all characteristics, must be able to document his reasons for not repeating ITT.</p> <p>As basis for such documentation the manufacturer may use</p> <ul style="list-style-type: none"> - Documentation from the raw materials supplier - Tests from FPC - Technical literature, e.g. from 3rd parties and institutes. <p>As EPS and XPS would normally fall under AoC system 3+4, no certification body would be involved. The manufacturer is therefore solely responsible.</p> <p><i>Approved by Sector Group 19 on 2012-09-19</i></p>	<p><i>EN 13172 clause 6</i></p>
<p>053 Do all TC 88 standards allow for indirect lambda testing ?</p>	<p><i>Indirect testing is normally necessary to control the processes</i></p> <p>To apply indirect testing is always allowed, whether or not annex B of the relevant product standard indicates specific parameters or methods to apply.</p> <p>However, use of indirect testing would not allow the go below the minimum frequencies for direct testing indicated by table B.1 of the standard.</p> <p>Use of indirect testing is also dealt with under Q&A no. 19.</p> <p><i>Approved by Sector Group 19 on 2012-09-19</i></p>	<p><i>EN 13162 to 13171 clause B.1</i> <i>Q&A no. 19</i></p>
<p>054 Is declaration of pH value always required for mineral wool to</p>	<p><i>The manufacturer is free to decide</i></p> <p>Determination of the pH-value is described in clause 4.3.7, which is a sub-clause to 4.3, 'For specific applications'.</p>	<p><i>EN 14303 clause 4.3.7</i> <i>EN 14303 clause 4.3.1</i></p>

EN 14303 ?	<p>As described in clause 4.3.1, properties described in clause 4.3 need not be determined and declared if there is no requirement. This means, that the manufacturer is free to decide whether or not to declare the pH-value.</p> <p>However, if the pH-value is not declared for a product, that product is excluded from uses for which a declaration of that property is required.</p> <p style="text-align: right;"><i>Approved by Sector Group 19 on 2013-09-19</i></p>	
055 How to classify pipe insulation products that due to large diameter are tested as a flat product?	<p><i>To be classified as flat products</i></p> <p>If products are tested as flat products the classification should be as for flat products as well.</p> <p style="text-align: right;"><i>Approved by Sector Group 19 on 2013-09-19</i></p>	
056 How should a certification body deal with it if a manufacturer deviates from the test method for measuring thickness of pipe sections?	<p><i>Deviations must be justified</i></p> <p>In general, manufacturers may need a certain degree of freedom to adapt their testing to their products and production processes.</p> <p>In some cases, the production process itself will ensure a high degree of uniformity of the pipes, and hence the thickness can be measured at the ends of the pipe sections. In such cases, the manufacturer may find it disproportionate to conduct destructive testing of thickness.</p> <p>In general, the certification body must verify that any deviation from the described test method do not in any way cause any risk with regard to fulfillment of the declaration.</p> <p>If the manufacturer justifies, e.g. by means of statistical analyses, that the thickness is sufficiently uniform, the certification body may accept that the thickness is only measured at the ends of the pipe sections.</p> <p style="text-align: right;"><i>Text proposed by Anders Elbek on 2014-02-24</i></p>	
057 How should a notified laboratory deal with the new conditioning of EPS-specimens described by EN 13163:2012 clause 5.2, considering this conditioning at 70°C creates problems with elasticized products?	<p><i>For elasticized EPS, the conditioning described by EN 13163:2012 clause 5.2 can be replaced by a conditioning at 50°C, provided it lasts more than one week, and provided the stabilisation criteria remains mass stability</i></p> <p>At a temperature of 70°C, elasticized products may have their thickness increased during the conditioning, making the thickness after conditioning not compliant with the specifications of the manufacturer. For these products, it is assumed that the notified laboratory should conduct the ITT after a conditioning at 50°C, provided the stabilisation criteria remains mass stability.</p> <p>Furthermore, manufacturers should be aware that the new conditioning temperature, 70C, may result in increased lambda values. For grey products, a typical increase would be 0,001 W/mK. For white products, the increase would typically be much lower.</p> <p>Notified laboratories may choose to inform clients for whom they have conducted Initial Type Testing about the change in the standard.</p> <p>It is the sole responsibility of the manufacturer to ensure that his</p>	EN 13163:2012 clause 5.2

	<p>products meet the requirements of the revised standard.</p> <p style="text-align: right;"><i>Text proposed by Anders Elbek on 2014-02-24</i></p>	
<p>058 Error in new edition of EN 12086</p>	<p>In EN 12086:2013, the gas constant of water vapour is indicated as 462×10^{-8}</p> <p>This is assumed to be an error. NBs should use the value 462×10^{-6}.</p> <p style="text-align: right;"><i>Approved by Sector Group 19 on 2013-09-19</i></p>	
<p>059 How to declare intervals of water vapour diffusion intervals?</p>	<p><i>Depends on the standard</i></p> <p><i>Some harmonised standards, e.g. EN 13163, do allow for the declaration of an interval whereas other standards, e.g. EN 13162 and EN 13171) only allow for the declaration of a single (maximum) value.</i></p> <p><i>The performance indicated by the CE-marking and the DoP must be in accordance with the harmonised standards.</i></p> <p><i>Therefore, if a manufacturer of e.g. MW or WF should need to declare an interval (i.e. also to indicate a minimum value) he may use other means than the CE-marking and the DoP; e.g. information on website or in literature on the product.</i></p> <p style="text-align: right;"><i>Text proposed by Anders Elbek on 2014-02-24</i></p>	<p><i>EN 13162, clause 4.3.8</i> <i>EN 13163, clause 4.3.13</i> <i>EN 13171, clause 4.3.9</i></p>
<p>060 Are deviations from EN 14064-1 Annex D acceptable?</p>	<p><i>Notified bodies should focus on the declared performance</i></p> <p>The normative annex D of EN 14064-1 indicates a method for the preparation of specimens for determination of water absorption.</p> <p>This method is considered most troublesome and difficult to apply, as well for manufacturers as for notified laboratories. Therefore, they apply in practise simplified methods.</p> <p>For notified testing laboratories: The notified testing laboratory shall evaluate the risks related to any deviation from the standard and take such risks into account. It shall satisfy itself that any deviation does not significantly affect the test result. In particular, notified testing laboratories should only apply deviations from EN 14064 annex D as long as they do not affect the density of the specimens and do not visibly change the structure of the loose-fill product. For instance, the product shall first be blown as described in a larger frame, and put into the cage for water absorption in respect of the intended final density of the product.</p> <p>For notified certification bodies: For the purpose of FPC, it is generally accepted that manufacturers adapt the methods described by the standards to the actual circumstances, e.g. products, equipment, and personnel available.</p> <p>Also the manufacturer shall evaluate the risks related to any deviation from the standard and take such risks into account. Based on that, the notified certification body shall satisfy itself that deviations made by the manufacturer do not cause any risks for non-compliance with the declared performance.</p> <p>Notified certification bodies should only accept that manufacturers deviate from EN 14064 annex D as long as the deviations do not affect the density of the specimens and do not visibly change the structure of the loose-fill product.</p>	<p><i>EN 14064-1, Annex D</i></p>

	<i>Text proposed by Anders Elbek on 2014-02-24</i>	
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