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Thermal insulation — Determination of steady-state thermal resistance and related properties — Heat flow meter apparatus

AMENDMENT 1

Isolation thermique — Détermination de la résistance thermique et des propriétés connexes en régime stationnaire — Méthode fluxmétrique

AMENDEMENT 1

Reference number
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Foreword

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Amendment 1 to ISO 8301:1991 was prepared by Technical Committee ISO/TC 163, *Thermal performance and energy use in the built environment*, Subcommittee SC 1, *Test and measurement methods*.

Thermal insulation — Determination of steady-state thermal resistance and related properties — Heat flow meter apparatus

AMENDMENT 1

Page 1, 1.2

Delete footnote 1.

Page 5, 1.5.3.3

Add the following note at the end of the subclause:

NOTE Comparative tests under the European Key Mark scheme have shown that it is possible to achieve reproducibility of 1,5 % using careful calibration and careful operational procedures.

Pages 5 and 6, 1.5.4.2

At the end of the last sentence, replace “in accordance with 1.5.4.1.” with “in accordance with 1.5.4.1 and 2.5.4.”

Page 6, 1.7.2.1

At the end of the second sentence, add “(e.g. the use of three-dimensional finite elements calculations for evaluation of edge effects).”

Pages 9 and 10, 2.2.1.2

Retain the first three lines and delete the rest of the text in the subclause.

Page 13, 2.2.3.1.1

Replace the following text in the last three sentences of the second paragraph:

The number of such thermocouples on each side should be not less than $10\sqrt{A}$, or 2, whichever is greater, where A is the metering area section in square metres. One thermocouple per surface has been found adequate on existing plates having surface areas of less than 0,04 m^2, provided that either the thermocouples are changed frequently or the thermocouple calibration is checked regularly. A minimum of two thermocouples is required for all new apparatus.

with the following:

The number of such thermocouples on each side shall not be not less than $10\sqrt{A}$, or 2, whichever is greater, where A is the metering area section in square metres. One thermocouple per surface has been found adequate when testing high resistance specimens using plate thermocouples only without contact sheets.

Page 14, 2.2.3.1.3

Delete the last sentence of the last paragraph.

Page 14, 2.2.3.2.2

Replace the first part of the first paragraph “When the apparatus is used for high-level performance in measurements or reporting testing, the measuring system shall have the following capabilities, regardless of whether a wide-range or a multirange measuring system is used: ” with: “The measuring system shall have the following capabilities, regardless of whether a wide-range or a multirange measuring system is used:”

Page 14, 2.2.3.2.2

Delete list item f).

Page 15, 2.2.5.1

Add at the end of the first paragraph: “Finite element three-dimensional simulation shall be carried out to ensure one-dimensional heat flow in the metering area”.

Page 15, 2.2.5.1

In the third paragraph, change “5 K” to “2 K” and add the following note:

NOTE For specimens with fine capillaries or pores, up to 5 K can be needed.

Pages 15 and 16, 2.2.5.3

Delete the subclause.

Page 16, 2.3.4

Add at the end of the subclause “Finite element three-dimensional simulation shall be carried out to ensure one-dimensional heat flow in the metering area.”

Page 19, 2.5.3.1.4

Delete the subclause.

Page 19, 2.5.3.1.5

Delete the subclause.

Page 19, 2.5.3.1.7

Delete the subclause and renumber 2.5.3.1.6 as 2.5.3.1.4.

Page 22, 3.2.2.2.1

In the last paragraph, replace “The number of uniformly distributed thermocouples used on each side of the specimen in the area contiguous to the metering area (see 2.2.3.1.1) should be not less than $10\sqrt{A}$, or 2, whichever is the greater, where A is the area in square metres of one side of the metering area.” with “A minimum of one thermocouple is needed for each surface.”

Page 23, 3.2.2.3.1

In the second paragraph, replace “sample” with “specimen”.

Page 30, Annex A

In the 2.2.3.1.1 row, value column, replace “$10\sqrt{A}$ or 2” with “1”.

Page 30, Annex A

In the 2.2.5.1 row, value column, replace “5 K” with “2 K”.

Page 30, Annex A

Delete the 2.2.5.3 row.

Page 30, Annex A

Delete both 2.3.2 rows.

Page 30, Annex A

In the 3.2.2.3 row, value column, replace “10, better 20” with “10”.

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