



0002

Test Report

THERMAL RESISTANCE OF SEMPATAP (NOLAM) INSULATION MATERIAL

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FOR Mould Growth Consultants Ltd
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KT4 8RH

For the attention of Steven Leach.

IDENTIFICATION Authorised NPL quotation 2009110310 signed and dated by Steven Leach on 18 November 2009, and customer's purchase order 22330 dated 18 November 2009. NPL specimen number QM392 was assigned to the specimen.

BASIS OF TEST NPL thermal conductivity measurement procedure conforming to ISO 8302:1991 and EN 12664:2001.

UNCERTAINTY The overall measurement uncertainty is estimated to be within $\pm 6.0\%$, based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a level of confidence of approximately 95 %.

Reference: 2009110310/1

Date of issue: 12 January 2010

Checked by: *AJ CS*

Signed:

(Authorised Signatory)

Name: Ray Williams

for Managing Director

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OBJECTIVE

To determine the thermal resistance of a Sempatap (noflam) insulation material specimen, as prepared by NPL from material supplied by the customer, at a mean temperature of 20 °C.

SPECIMEN PREPARATION

The specimen was stored in an environment of 23 °C and 50 % RH prior to the testing.

MEASUREMENTS

The thermal resistance was measured using a precision single-sided 305 mm guarded hot-plate (NPL VGHP), in which the specimen is mounted horizontally with the heat flow upwards. In this apparatus thermocouples and a differential thermocouple are used to monitor the temperature balance between the guard and metering area of the heater plate. Linear temperature gradient edge guards are also used to further minimise lateral heat flow from the metering area. The plate surfaces have a total hemispherical emittance of 0.9 and all the temperature sensors and electrical instruments used are calibrated with traceability to national standards.

RESULTS

The results, including the specimen details, are shown on the following page.

Reference: 2009110310/1

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Sample description: Sempatap (Noflam) Insulation Material
 Batch reference: 234809\1
 Nominal thickness: 10 mm

Information regarding the specimen and measurement is given below.

Specimen and Test Details	
NPL specimen number	QM392
Mean length × width /mm	306.5 × 305.5
Mean thickness during test /mm	9.83
Mass before test /kg	0.172
Mass after test /kg	0.172
Mean density during test /(kg/m ³)	186.4
Mean temperature difference /K	16.93
Mean density of heat flow rate /(W/m ²)	87.4
Laboratory temperature /°C	23
Laboratory relative humidity /%RH	47 to 60
Name of operator	A. J. Simpkin

Thermal Resistance Result for QM392	
Date of measurement	19/12/09
Mean test temperature /°C	20.5
Thermal resistance /(m ² ·K/W)	0.194

Reference: 2009110310/1

Checked by: *AJS CS*