

test report



BS 476: Part 4: 1970

**Non Combustibility Test For
Materials**

WF Report Number

180688

Date:

23rd February 2009

Test Sponsor:

Sound Absorption UK Limited

Bodycote warringtonfire Test Report No. 180688

**BS 476: Part 4: 1970
Non Combustibility Test For Materials**

Sponsored By

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Test Details

Purpose of test	<p>To determine if specimens of a material are "non-combustible" or "combustible" when they are tested in accordance with the test specified in BS 476: Part 4: 1970 "Fire tests on building materials and structures, Non-combustibility test for materials".</p> <p>The test was performed in accordance with the test procedure specified in BS 476: Part 4: 1970, incorporating amendments issued March 1978 (AMD 2483) and September 1983 (AMD 4390), and this test report should be in conjunction with that British Standard and the aforementioned amendments.</p>
Scope of test	<p>BS 476: Part 4: 1970 specifies a method of test for determining whether materials are "non-combustible" within the meaning of the definition. Materials are classified "non-combustible" or "combustible" according to their behaviour in the test.</p> <p>The test is intended for building materials, whether coated or not, but it is not intended to apply to the coating alone.</p>
Fire test study group/EGOLF	<p>Certain aspects of some fire test specifications are open to different interpretations. The Fire Test Study Group and EGOLF have identified a number of such areas and have agreed Resolutions which define common agreement of interpretations between fire test laboratories which are members of the Groups. Where such Resolutions are applicable to this test they have been followed.</p>
Instruction to test	<p>The test was conducted on the 19th February 2009 at the request of Sound Absorption UK Limited, the sponsor of the test.</p>
Provision of test specimens	<p>The specimens were supplied by the sponsor of the test. Bodycote warringtonfire was not involved in any selection or sampling procedure.</p>
Conditioning of specimens	<p>The specimens were received on the 17th February 2009.</p> <p>Prior to test the specimens were dried in a ventilated oven at $60 \pm 5^{\circ}\text{C}$ for 24 hours and then cooled to ambient temperature in a desiccator containing anhydrous calcium chloride.</p>

Description of Test Specimens

The description of the specimens given below has been prepared from information provided by the sponsor of the test. All values quoted are nominal, unless tolerances are given.

General description	Acoustic tile
Product reference	"Quietstone QSL"
Detailed description / Composition details	Recycled glass mixed with a two part silicone resin and a cementitious adhesive
Density	500 kg/m ³ (stated by the sponsor) 472.25 kg/m ³ (determined by Bodycote warringtonfire)
Colour reference	"White/Grey"
Name of manufacturer	Sound Absorption UK Ltd
Flame retardant details	See Note 1
Brief description of manufacturing process	Product is mixed in a paddle mixer to a known formulation for 3 mins. Then placed in moulds and allowed to set for 8 hours with a temperature applied to speed cure.

NOTE 1: The sponsor of the test has confirmed that no flame retardant additives were utilised in the production of the product / component.

Test Results

Results of test

The test results relate only to the specimens of the product in the form in which they were tested. Small differences in the composition or density of the product may significantly affect the performance during the test and may therefore invalidate the test results. Care should be taken to ensure that any product which is supplied or used is fully represented by the specimens which were tested.

The test results for the individual specimens are given in Table 1.

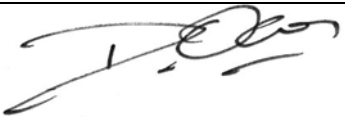
IN ACCORDANCE WITH THE CRITERIA GIVEN IN BS 476: PART 4: 1970 THE SPECIMENS ARE CLASSIFIED AS "NON-COMBUSTIBLE".


Validity


The specification and interpretation of fire test methods are the subject of ongoing development and refinement. Changes in associated legislation may also occur. For these reasons it is recommended that the relevance of test reports over five years old should be considered by the user. The laboratory that issued the report will be able to offer, on behalf of the legal owner, a review of the procedures adopted for a particular test to ensure that they are consistent with current practices, and if required may endorse the test report.

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Report Issued: 23rd February 2009

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Table 1

Specimen Number	1	2	3
Furnace temperature prior to insertion of the test specimen (°C)	749.2	749.8	753.1
Maximum temperature rise within the furnace (°C)	26.2	26.6	24.5
Maximum temperature rise within the core of the test specimen (°C)	NIL	NIL	NIL
Duration of sustained flaming (seconds)	NIL	NIL	NIL

Designation Of Non-Combustibility

The following is reproduced from clause 8 of BS 476: Part 4: 1970:

The material shall be deemed non-combustible if, during the test, none of the three specimens either:

- 1) Causes the temperature reading from either of the two thermocouples to rise by 50°C or more above the initial furnace temperature, or
- 2) Is observed to flame continuously for 10 seconds or more inside the furnace.

Otherwise, the material shall be deemed combustible.



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