

TEST REPORT

WARRES NO. 60972

IGNITABILITY OF SHOW SNOW
WHEN TESTED TO SOURCE 1 OF
BS 5852: 1992

SPONSORED BY

CONCEPT ENGINEERING LIMITED

7 Woodlands Business Park, Woodlands Park Avenue, Maidenhead, Berkshire, SL6 3UA

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PURPOSE OF TEST

To determine whether flakes of "show snow", used to simulate fallen snow, tested in an ad-hoc manner but in its end-use form, conforms to the requirements of BS 5852: 1990 when tested with Ignition Source No. 1.

METHOD OF TEST

The test method used was a modification of the BS 5852 procedure for determining ignitability of upholstered furniture.

DESCRIPTION OF THE TEST SPECIMENS

The description of the specimens given below has been prepared from information provided by the sponsor of the test.

The product was a 100% high molecular weight, - non-electrostatically treated high density polyethylene film, produced as flakes, to simulate fallen snow. The average size of each flake was 100 mm² and it was tested with a density of 0.041 g/cm³.

The specimen was supplied by the sponsor. Warrington Fire Research Centre was not involved in any selection or sampling procedure.

CONDITIONING OF SPECIMENS

The specimens were received on 10th December 1993.

The specimens were conditioned for at least 72 hours in indoor ambient conditions and then immediately before test until constant mass was achieved in an atmosphere having a temperature of $20 \pm 5^\circ\text{C}$ and a relative humidity of $50 \pm 5\%$.

DATE OF TEST

The tests were performed on 13th December 1993.

TEST PROCEDURE

The "show snow" was sprinkled onto a square tray of sides 450 mm to a depth of 10 mm.

Butane Ignition Source No. 1 as specified in BS 5852: 1990 was applied for 20s to the "snow" at the centre of the tray, and any subsequent flaming observed. The specimens were tested in a draught free environment since persistence of flames is known to be susceptible to draughts.

Three separate tests were conducted.

TEST RESULTS

The following test results relate only to the ignitability of the show snow under the particular conditions of test; they are not intended as a means of assessing the full potential fire hazard of the materials in use.

TEST 1

mins	Time		Observations
	mins	secs	
00	00	00	Ignition source is applied to the upper surface of the "snow".
00	00	20	The "snow" continues to flame after the ignition source is removed with a small blue flame.
01	00	00	The "snow" is still burning, but the flames are now moving outwards in a circular pattern.
01	00	30	Flaming still very localised and only 10 - 15mm high.
01	00	56	All flaming ceases with a 'puff' of white smoke being released.
02	00	00	Test terminated.

TEST 2

mins	Time		Observations
	mins	secs	
00	00	00	Ignition source is applied to the upper surface of the "snow".
00	00	20	The "snow" continues to flame after the ignition source is removed.
01	00	00	"snow" still burning with small blue flame, 10mm high.
01	00	53	All flaming ceases.
02	00	00	Test Terminated.

TEST 3

Time		Observations
mins	secs	
00	00	Ignition source applied to upper surface of the "snow".
00	20	Ignition source removed. Snow continues to burn with "blue flame".
00	53	All flaming ceases with a puff of white smoke.
01	00	Test terminated.

CONCLUSIONS

The "show snow" tested was ignited by the BS 5852 Flame Source No. 1 but ceased to flame within the 2 minute definition of sustained flaming given in BS5852. The "show snow" can therefore be said to meet the requirements of Source 1 of BS5852:1990.

Responsible Officer

J. Murrell

MRS. J. M. MURRELL
Head of Special Projects

Approved

P.E. Lythgoe

P.P.

R. J. SHAW
Director
for and on behalf of
WARRINGTON FIRE RESEARCH CENTRE

Date of issue: 13th December 1993

(PC687)