

**Test Report No. 811210689/1**

in accordance with Clause 12 of the Standards Law, 1953  
This report cancels and replaces Test Report no. 811210689

**Details of order**

The test was ordered by	: Bitum Petrochemical Industries Ltd.
Address	: 4 HaYitzira St., Kiryat Hayim 26090, ISRAEL
Date of order	: 15/10/01

**Description of sample**

Sample of a thermal insulating sheet designated by the customer, "BTI" and manufactured by the Bitum Israel Company.

**Sampling details**

The sample was taken on 15/10/01 and selected by the customer.  
Sampling location was not given by the customer.

**Nature of test**

Classification of the product in accordance with Clauses: 2.3 – Flammability, 2.4 – Smoke density, 2.5 – Shape deformation and dripping of Israel Standard SI 755 (June 1998): "Behaviour of building materials during fire: Test methods and classification".  
This report does not include Clause 2.6 of the Standard that refers to the "Total risk of toxicity from gases emitted during burning".

This report contains 3 pages and may be used only in full.

The test report refers to the test sample only and does not apply to other items of the same product.

**Summary**

1. The abovementioned specimen was tested and classified according to Israel Standard SI 755 (1998) as follows:

Flammability class	- B <sub>2</sub>
Smoke density class	- 2 (two)
Deformation and dripping class	- 2 (two)

Details are given on pages 2-3.

## **B. Description of specimen**

- A thermal insulation specimen designated by the customer, "BTI" and manufactured by the Bitum Israel Company.
- Specimen dimensions: 26 × 90 cm and approximately 40 mm overall thickness.
- Mass per unit area: approximately 300 g/m<sup>2</sup>.

## **C. Test findings**

### 1) Flammability

#### Spread of flame test

The specimen panels of dimensions 265 × 900 mm contracted and were partially melted during the first minute of the test without igniting. Therefore, according to Clause 2.3.1.4 of SI 755, this test is not applicable to the abovementioned product.

Piece or panel number	Test results		Requirements of Standard* for obtaining classification	
	Maximum spread of flame in 1.5 minutes (mm)	Maximum spread of flame in 10 minutes (mm)	Maximum spread of flame in 1.5 minutes (mm)	Maximum spread of flame in 10 minutes (mm)
1	The specimens contracted and partially melted during the first minute of the test.		The test is not applicable to the abovementioned product.	
2				
3				

\* Each panel is classified according to the spread of flame in 1.5 minutes or in 10 minutes. The product classification is according to the most severe spread of flame among the panel specimens tested.

#### **Note:**

In the light of the spread of flame test findings and according to the instructions in clauses 2.3.1.4 and 2.3.5 of the Standard, an additional flammability test was performed in accordance with the method described in Clause 6.2 of the German Standard DIN 4102/1 (1981). The material complied with the requirements of this Clause and therefore, the flammability class is B<sub>2</sub>.

2) Test findings according to Clause 6.2 of the German Standard DIN 4102 Part 1:

**Two series of tests were conducted:**

A. Flammability test where the bottom end of the pieces are exposed to the flame:

- The test pieces ignited during the test, however the flame did not reach the line marked at a distance of 150 mm from the end of the piece.
- Dripping was observed.

B. Flammability test where the face of the pieces are exposed to the flame:

- The test pieces ignited during the test, however the flame did not reach the line marked at a distance of 190 mm from the end of the piece.
- Dripping was observed.

3) Test findings according to Clauses 2.4 and 2.5 of SI 755:

Smoke density

Maximum light absorption – 69.5 %

Shape deformation and dripping

During the test, deformation, melting and dripping were observed that did not continue to burn on the floor of the test chamber.

**D. Remarks**

1) According to SI 755, there are six ignitability classes, I to VI where I represents highly ignitable material. Likewise, four grades, 1 to 4, account for both smoke density and shape deformation with grade 1 being the most hazardous. In addition, the emission of toxic gases during burning of the product is tested.

2) The requirement in accordance with Clause 6.2 of the German Standard DIN 4102/1 for classification to B<sub>2</sub> is:

The flame shall not reach the line marked on the test specimens in one of the two tests mentioned above in Clause C within 15 seconds from the start of application of the fire source.

The original test report was signed by:

Name : **Eng. Ricardo Gore, M.Sc.**  
Position : **Head, Fire Branch**

Name : **Shabtay Bassan, Chemist**  
Position : **Senior test engineer** on: 2001/11/14

I confirm that this is a true translation of the Hebrew original; however, only the original Hebrew test report is authentic.

Signature:

Name : **Eng. Ricardo Gore**  
Position : **Head, Fire Section**  
Date : **2003 / 04 / 27**  
year / month / day