

# Evidence of Performance

Of the physical attributes of the edge seals  
of insulating glass units according to DIN EN 1279-4



Test Report  
no. 15-001700-PR01  
(PB-K02-09-en-01)

Client **Erpasan Kalip Plastik Kimya  
Nakliyat San. Tic. Ltd. Sti.**  
Pirireis Mah. Barbaros Cad.  
Darica Sanayi Sitesi A Blok 1  
41700 Darica  
Turkey

#### Basis

DIN EN 1279-4 : 2002-10;  
Glass in building – Insulating  
glass units;  
Part 4: Methods of test for the  
physical attributes of edge  
seals.

Chapter: 5.3 Gas permeation  
rate

Product	Sealant for use in the edge seals of insulating glass units
System designation	BU2000, based on polyisobutylene
Order	Test according to DIN EN 1279-4

The sealant based on polyisobutylene **BU2000**, made by  
Erpasan Kalip Plastik Kimya Nakliyat San. Tic. Ltd. Sti.,  
displays the following properties according  
to DIN EN 1279-4:

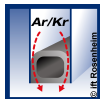
#### Instructions for use

This test report serves to  
demonstrate the physical  
attributes of edge seals of  
insulating glass units.

It serves as a basis for  
substitution of sealants used  
in insulating glass units.  
according to EN 1279-1.

#### Validity

The data and results given  
relate solely to the tested and  
described specimen.



#### 5.3 Gas permeation rate

$(0.98 \pm 0.10) \times 10^{-3} \text{ g/(m}^2 \text{ h)}$

#### Notes on publication

The ift-Guidance Sheet  
'Conditions and Guidance for  
the Use of ift Test Documents'  
applies.

The cover sheet can be used  
as an abstract.

ift Rosenheim  
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#### Contents

The report contains a total of  
4 page/s

- 1 Object
- 2 Procedure
- 3 Detailed results
- 4 Summary

## 1 Object

### 1.1 Test specimen for testing the gas permeation rate

Subject	Sealant foil
Manufacturer	Erpasan Kalip Plastik Kimya Nakliyat San. Tic. Ltd. Sti., 41700 Darica (Turkey)
Date of manufacture	26th May 2015
Sealant	
Product designation	BU2000
Type	based on polyisobutylene Batch No.: no further information
Manufacturer	Erpasan Kalip Plastik Kimya Nakliyat San. Tic. Ltd. Sti., 41700 Darica (Turkey)
Colour	black
Dimensions diameter in mm	Approx. 200
Thickness in mm	Approx. $2 \pm 0.1$ mm

The description is based on inspection of the test specimen at **ift**.

Item designations/numbers as well as material specifications were given by the client.

## 2 Procedure

### 2.1 Sampling

The samples were selected and produced by the client.

#### 2.1.1 Test specimen for testing the gas permeation rate

Quantity	5 films
Delivered	29th May 2015 by the client
Registration No.	39357

### 2.2 Process

Basis

DIN EN 1279-4 : 2002-10	Glass in building – Insulating glass units. Methods of test for the physical attributes of edge seals. Chapter 5.3 Gas permeation test on film
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Boundary conditions According to the requirements of the standard

Deviations There have been no deviations from the test method and test conditions

## 2.3 Test equipment

### 2.3.1 Gas permeation rate on film

Normal climate chamber  
Gasleakage measurement device with  
gas chromatograph

Appliance number: 22040

Appliance number: 22503

## 2.4 Testing

Date/Period 1st July 2015 to 6th August 2015

Testing personnel Thomas Eder, Benjamin Cevrim

## 3 Detailed results

### 3.1 Gas permeation rate, test according to DIN EN 1279-4, Chapter 5.3

The gas permeation rate test was carried out on three test specimens. The testing area of the films was approx. 0.0046 m<sup>2</sup>. Once a constant state had been reached, the value of the average gas permeation rate for each of the films was determined on the basis of four measurements. The results are presented in table 1.

**Table 1** Gas permeation rate test on films

	Gas permeation rate in g/m <sup>2</sup> h		
	Test specimen 1	Test specimen 2	Test specimen 3
Membrane thickness in mm	2.12	2.13	1.93
Average value for the measured film	1.0 x 10 <sup>-3</sup>	0.84 x 10 <sup>-3</sup>	0.99 x 10 <sup>-3</sup>
Average value for film (relating to 2 mm membrane thickness )	1.1 x 10 <sup>-3</sup>	0.90 x 10 <sup>-3</sup>	0.95 x 10 <sup>-3</sup>
<b>Average value of gas permeation rate calculated from the 3 individual values</b>	<b>(0.98 ± 0.10) x 10<sup>-3</sup> g/(m<sup>2</sup> h)</b>		

Error of measurement in the test procedure according to EN 1279-3 is specified as 20 % standard deviation for all individual values.

## 4 Evaluation and summary according to the specifications of DIN EN 1279-4

### Client:

**Erpasan Kalip Plastik Kimya**

**Nakliyat San. Tic. Ltd. Sti.**

Pirireis Mah. Barbaros Cad.

Darica Sanayi Sitesi A Blok 1

41700 Darica

Turkey

Sealant specification: BU2000

Glass specification: Floatglas according to DIN EN 572-2

### 4.1 Gas permeation rate test

Film thickness	Based on a thickness of 2 mm
Surface	Average approx. 0.0046 m <sup>2</sup>
<b>Gas permeation rate</b>	<b><math>(0.98 \pm 0.10) \times 10^{-3} \text{ g}/(\text{m}^2 \text{ h})</math></b>

Result of the testing of the strength of the edge seal:

The sealant **BU2000**, made by **Erpasan Kalip Plastik Kimya Nakliyat San. Tic. Ltd. Sti.**, fulfils the criteria: **YES**

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06.08.2015