

Report No	371/7869005	This report consists of 3 pages
Licence/Certificate No	KM 58991	
Client	Systems Glass Limited Holland Street Manchester M34 3WE	
Authority & date	BSI Service Management Order No. 7869005, dated 23 July 2012. Equipment Record No. 10136590.	
Items tested	6 off Insulating glass units Desiccant - Molecular sieve - DGS Primary sealant - Butyl - Bostik 2000 Secondary sealant - Hot melt butyl - Bostik 5000 Spacer bar - Aluminium - Alu.Pro. Date of manufacture - Before 19 December 2012	
Specification	BS EN 1279-6:2002 Annex B.4 and B.5 (Gas concentration). Type test assessment	
Results	Pass	
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Issue Date	08 April 2013	
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TEST AND EXAMINATION OF INSULATING GLASS UNITS SUBMITTED FOR PERIODIC TEST ASSESSMENT

INTRODUCTION

At the request of BSI the insulating glass units, detailed below and submitted by Systems Glass Limited, were tested and assessed to the applicable requirements of BS EN 1279-6:2002 Annex B.4 & B.5 (Gas concentration only) as indicated on the following page of this report. This request was made on Service Management Order No. 7869005, dated 23 July 2012. The test items were received on 19 December 2012 and identified under Equipment Record No. 10136590.

TEST ITEMS

6 off insulating glass units each nominally 502mm x 352mm with a 12 mm air gap between the two panes of 4 mm glass were submitted for test to BS EN 1279-6:2002 Annex B.4 & B.5. The components used in the construction were declared by the manufacturer as follows:

Desiccant -	Molecular sieve - DGS
Spacer bar -	Aluminium - Alu.Pro.
Corner keys -	Plastic - EWS
Primary sealant -	Butyl - Bostik 2000
Secondary sealant -	Hot melt butyl - Bostik 5000
Cavity gas -	Argon
Date of manufacture -	Before 19 December 2012

SUMMARY OF RESULTS

The insulating glass units described above exhibited the following characteristics:

Characteristic	Specified	Actual	Assessment
Sample 1 moisture penetration index	8.5% max	4.5% ¹	Pass
Sample 5 moisture penetration index	8.5% max	6.4% ¹	Pass
Sample 2 cavity gas concentration	90% -5%+10%	91.6%	Pass
Sample 3 cavity gas concentration	90% -5%+10%	87.9%	Pass
Sample 4 cavity gas concentration	90% -5%+10%	99.3%	Pass

¹ NOTE: In the determination of the moisture penetration index a standard moisture absorption capacity of 20.00% has been used.

TEST PROCEDURE, BS EN 1279-6:2002 Annex B.4 & B.5 - Periodic testing and inspection**Conditioning and dimensional measurement**

The insulating glass units were received at BSI on 19 December 2012 and stored in standard laboratory conditions of $23 \pm 2^{\circ}\text{C}$ and $50 \pm 5\%\text{RH}$ for a period of not less than 14 days. During this period the seal geometry was inspected and recorded.

Initial moisture content

The desiccant from units 2 and 4 was removed and the initial moisture content was established in accordance with BS EN 1279-2:2002 Annex B - The 950°C drying method.

Climatic test

Units 1 and 5 were placed in the climatic test chamber and subjected to 3 weeks at a constant temperature of $+58^{\circ}\text{C}$ and a humidity of 95%RH or greater. This climatic test commenced on 18 January 2013. Following this climatic test the units were conditioned in standard laboratory conditions for a further 14 days.

Final moisture content

The desiccant from units 1 and 5 was removed and the final moisture content was established in accordance with BS EN 1279-2:2002 Annex B - The 950°C drying method.

Test results

Unit Number	Initial Moisture Content	Final Moisture Content	Moisture penetration index
1	N/A	9.32%	4.46%
2	8.81%	N/A	N/A
4	8.82%	N/A	N/A
5	N/A	9.54%	6.43%

The desiccant has been declared as Molecular sieve - DGS, with a generally accepted value for the standard moisture absorption capacity of 20.00%.

Gas concentration test

A sample of gas was taken from the cavity of 3 IGU's and the amount of Argon in the gas sample established as a percentage. To collect the sample the IGU was placed in a special test rig that allows a drill bit and pipe assembly to be sealed to the outer edge of the IGU. A hole was made in the IGU with the drill bit and a sample of the cavity gas extracted via the flutes of the drill. The gas sample was collected and measured using a gas chromatograph.

Test results

Unit Number	Declared Argon Concentration	Measured Argon Concentration
2	90% -5%+10%	91.6%
3	90% -5%+10%	87.9%
4	90% -5%+10%	99.3%

End of Report