

Test report

Test report relating to a glass product according to European standard EN 1279-2, concerning the product marked as: Insulating glass, manufactured by: Glass Express Manufacturing (Midlands) Ltd

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1 Introduction

1.1 Purpose

The tests have been performed in order to establish whether or not the product meets the requirements of the European standard EN 1279-2 [1].

1.2 Description of the samples

General

Name of the manufacturer	Glass Express Manufacturing (Midlands) Ltd
Address of the manufacturer	Unit 9, Anglo African Ind Est. Oldbury West Midlands
Production plant of the samples	same as address manufacturer
Line ID where the samples are made	Atlantic Machinery
Production date	11 July 2015
Sampling date	11 July 2015
The product was marked as	Insulating glass
System description, file number	inseal01
Dimensions of the samples	(502 ±2) mm x (352 ±2) mm

Specific

Type of glass	Clear float glass
Configuration of the samples	4-12-4 mm
DESICCANT	
Trademark / type of desiccant	Eurosiv / Molecular Sieve
Desiccant amount	2 long sides filled, approx. 30 g
INNER sealant	
Trademark / type of inner sealant	n.a.
Kind of inner sealant	not present
Mass of inner sealant/length	n.a.
Sealant height on glass (r)	n.a.
OUTER sealant	
Trademark / type of outer sealant	Bostik 5000
Kind of outer sealant	butyl hot melt
Sealant depth u	5 - 6.5 mm (measured value)
Sealant height on glass (s)	6.5 - 8.5 mm (measured value)
SPACER	
Trademark / type of spacer	Eco bar warm edge spacer / composite
Trademark / type of corners	Komer plastic gas fill type corner key with plug
Connector	-
OTHER	
	-

1.3 Sampling procedure

The samples have been submitted by the assignor. The test house, acting as notified test body, has had no influence on the selection of the samples. All test specimens within the sample were test-worthy and were received on 26 august 2015.

1.4 Application

The request for testing was submitted by the assignor on 4 June 2015, order or reference number or name: -. Assignment Form number: 15.A285.

1.5 Method of testing

All applicable tests have been performed according to the European standard EN 1279-2 [1].

1.6 Put out to contract

No tests were performed at third parties.

1.7 Period of testing

The tests took place in the period week 36 till week 48, 2015.

1.8 Privacy statement

Due to privacy reasons, the names of involved personnel that executed the tests, are not disclosed in the report. However, this information is available on internal work sheets, test forms etc. in the project file.

1.9 Remark concerning this ITT report

For any other manufacturer this initial type test (ITT) report is not automatically valid. The manufacturer for this ITT report is defined under 1.2.

1.10 Notifications, accreditations, designations

TÜV Rheinland Nederland B.V. has been notified by the Dutch Ministry of Infrastructure and the Environment as Notified Test Body (number 1750) and Notified Certification Body (number 0336) for the European Construction Products Directive 89/106/EEC.

TÜV Rheinland Nederland B.V. has been accredited by the Dutch Accreditation Council (RvA) as ISO 17025 Test Laboratory (nr. L 484) and ISO 17065 Certification Body (nr. C078).

TÜV Rheinland Nederland B.V. has been designated as Technical Service (Laboratory) by the Approval Authorities for the Netherlands (RDW – E4) and Germany (KBA – E1) to grant approvals as mentioned in Directive 70/156/etc. and in the 1958 Agreement of the Economic Commission for Europe of the United Nations (UN-ECE) for glass as used in the automotive sector: ECE Regulation 43, safety glazing; EC Directive 92/22, Safety glass; EC Directive 2009/144, Glazing cat. T.

TÜV Rheinland Nederland B.V. has been recognised by the German Institute for building technics (DIBt) under number NL005.

2 Test results

Test results after performing all applicable tests according to European standard EN 1279-2 [1].

Requirements and end result

Required	Value of the test	Pass / fail
4.1 Moisture penetration index		
Insulating glass units shall fulfil their functions during an economically reasonable working life. Therefore the following values are verified on test specimens submitted to the climate test described in this Part of the standard.		
The average moisture penetration index I_{av} over the five test specimen shall not exceed 0.20	I_{av} over the five test specimen = 0.15	pass
The unit with the highest moisture penetration index shall have an index value I not exceeding 0.25	Highest moisture penetration index $I = 0.15$	pass

Prior to ageing, all 15 IGU's were visually inspected. No special deviations above variations due to the production process were found. After the visual inspection the test specimen were analysed on dew points. All IGU's showed dew points lower than -60 °C. The test specimens were randomly numbered and the moisture contents (T_i & T_f) were determined with drying method. From these results the individual penetration indices I and I_{av} were calculated. According to the standard [1] the measurement uncertainty of I is maximal 0.1.

Detailed test results

Initial values				
Unit no.	m_o [g]	m_i [g]	m_r [g]	T_i [%]
7	65.7344	85.7568	84.8097	4.97
8	64.1690	84.1814	83.2300	4.99
9	62.3860	82.5348	81.5700	5.03
10	66.1505	86.4183	85.4392	5.08
Average				5.02

After climate exposure					
Unit no.	m_o [g]	m_i [g]	m_r [g]	T_f [%]	I *)
4	61.7239	81.7899	80.4467	7.17	0.14
5	64.2127	84.6200	83.2407	7.25	0.15
6	65.4821	85.4982	84.1421	7.27	0.15
11	63.0174	83.0346	81.7220	7.02	0.13
12	66.9428	86.9848	85.6206	7.30	0.15
Average					0.15

*) I is calculated with fixed value of 20.0 % for T_c as mentioned in EN 1279-2 annex D

Remark

One of the IGU used for T_i determination did not have any desiccant in the spacer. This unit was replaced by a spare unit.

3 Conclusion

The tested glass product, marked by the client or manufacturer as: Insulating glass, manufactured by: Glass Express Manufacturing (Midlands) Ltd, with inner sealant with trade mark/type: n.a. and outer sealant with trade mark/type: Bostik 5000, meets the applicable requirements as stated in the European standard EN 1279-2 [1].

The test results exclusively relate to the tested objects.

Remark 1

When and if changes are made in production method and/or equipment, assessment according to this standard shall be reconsidered and re-tests shall be performed when the changes can lead to different specifications of the glass. The decision and responsibility lies at the manufacturer.



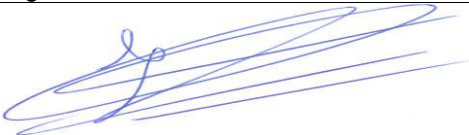
Remark 2

If no reference of the product description was supplied by the manufacturer, than that document shall be added to this test report by the manufacturer. It was to the manufacturer's responsibility that the samples delivered for initial type test are representative to the production and deviations from perfection were included in the delivered test samples.

4 References

- 1 European standard EN 1279-2:2002 (E),
Glass in building – Insulating glass units – Part 2: Long term test method and requirements for
moisture penetration, European Committee for Standardization, November 2002.

5 Signatures

Author Mr. M.A.A.M. Schets, B.Sc.	Signature 
Specialist	
Peer review Mr. S. El Bardai	Signature 
Specialist	
Approved by Mr. H. van Ginkel	Signature 
Business field manager	

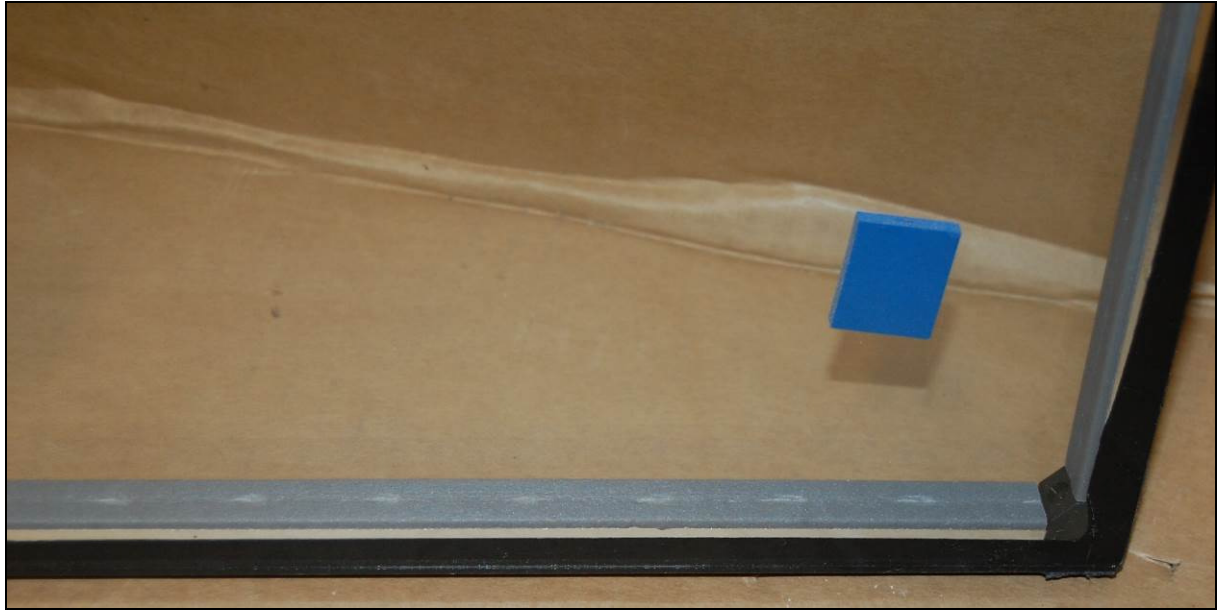
Appendix A, Summary of test results

 TÜVRheinland [®] Precisely Right.	
TÜV Rheinland Nederland B.V. P.O. Box 541, 7300 AM Apeldoorn The Netherlands Lab.no. 1750	
Summary of report no: 89208475-02	Date: 24 November 2015
Insulating glass units - Moisture penetration results according to EN 1279-2	
For details, see the test report	
Company:	Name: Glass Express Manufacturing (Midlands) Ltd Address: Unit 9, Anglo African Ind Est. Oldbury West Midlands United Kingdom
Plant:	Name: Glass Express Manufacturing (Midlands) Ltd Address: Unit 9, Anglo African Ind Est. Oldbury West Midlands United Kingdom
System description, file number:	inseal01
Product name:	Insulating glass Edge seal composition: inner sealant n.a. and outer sealant: Bostik 5000 and warm edge spacer
System conforms: YES	
NOTE: Comparisons of moisture penetration indices of different insulating glass unit system are meaningless.	
	
Signature: M.A.A.M. Schets, B.Sc. Specialist	Signature: H. van Ginkel Business field manager

NOTE: This Summary is not a certificate.

Appendix B, Pictures of the tested object(s)





- End of report -