Creep rupture properties of lamination– insulation glass according to DIN EN 1279-2

Test report no.: 12 - 003115 - PR01

(PB-H01-09-de-01)

Certificate

Client: GLASTECH Produktions- and Verfahrenstecchnik GmbH
Bahnhofstr. 34
3363 Hausmening
Austria

Product	Laminated, insulating glass, gas filled
Nomenclature:	Eurotherm IGS
External dimension (BxH) In mm	352 x 502
Construction in mm	6/20/6
Spacer	Aluminium-spacer, Fa. Eclipse Global Pvt.
Dense materials Exterior Interior	 Basis Polysulfid,Thiover, Fa. Fenzi Basis Polyisobutylen, 969, Fa. HB Fuller
Features	Installation device for blind between the panes.

The laminated insulating glass corresponds to demands of

DIN EN 1279-2

ift Rosenheim
29, May 2013

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Principle
DIN EN 1279-2:2003-06;
Glass under construction - laminated –insulating glass- part 2, long term test methods and requirements with reference to moisture absorption

Instructions for use
This test report serves for certification of the requirements with reference to requirements of the laminated insulation glass.

It serves as basis (ITT) for the CE-characterisation acc. to EN 1279-5.

Validity
The named data and results refer exclusively to the tested and described objects.

The testing of creep rupture properties permits no testimony about further performance and quality descisive characteristics.

Publication instructions
The **ift**-bulletin is valid"conditions and instructions for use of **ift**-test documentation"
The cover page can be used as a summary.

Content
The certification encloses in all 9 pages

1. Subject matter

1.1. sample

Product	laminated Insulating glass, gas filled
Manufacturer	Glastech productions and verfahrenstechnik Gmbh 3363 Hausmening, Austria
Manufacture date	12. December 2012
Nomenclature	Eurotherm IGS
External dimension (BXH) in mm	352 x 502
Total thickness in mm	approx 32
Construction in mm	6/20/6
Spacer	
Material/manufactureer	Aluminium, 20mm black anodized, fa. Eclipse Global Pvt. Ltd
Processing/corners/longitudinal batch	4 corners hidden, plastic black, with additional butylising on the spacer back Additionally gaurdrail from aluminium for blinds on both longitudinal sides-spacer, width 12 mm (see attachment pic 1)
Drying medium Type/manufacturer	Zeolith 3A, Phonosorb 558, Fa. Grace Charge : 1000233610
Tc-Value in %	22 (**ift** test report 509 33586/2)
Capacity in g	approx. 55
Filling type	Filled 3 sided (2 longitudinal and one short side)
Sealing of edge seal external	two levelled
Sealant /manufacturer	basis polysulfide, Thiover, Fa. Fenzi
Charge number	A: 1171302

	B: 1171032-S
Sealent sample on the spacer back in mm	approx. 6-7
interior	
sealant / manufacturer	Basis Polysiobutylen, 969, Fa. HB Fuller
Charge number	1034042
Visible Butyl width in mm	approx 6-8
One sided Butyl charge in g/m	approx. 3.8
Coating	Climagaurd premium, Fa Guardian, no further data
Edge coating in mm	15-18
Gas filling	Lt. manufacturer data
Gas type	Argon
Target volume %	90
Gas filling fastner	-/-
Features	Installation device for blind between the panes (see attachment pic 2)

The description bases itself on the inspection of sample in **ift**. Article nomenclature number as well as material data is data of the client.

2 Execution

2.1 Trial

The selection of trial takes place through the client

Quantity	9
Delivery	18.12.2012
Registration number	33805

2.2 Procedure

Basis

DIN EN 1279-2:2002-06	Glass in construction – lamination –insulating glass- part 2: long time test procedure and requirement with reference to moisture absorption
Edge condition	corresponding to standard requirement
Deviations	There are no deviations of test procedure respectively of test conditions

2.3 Testing equipment

Alternating climatic condition	Device number 22601
Constant climatic condition	Device number 22173
Normal climatic area	Device number 22040
Scales (loading)	Device number 22534
Forge	Device number 22567

2.4 Test execution

Date/period	21. January 2013 to 7. May 2013
Tester	Thomas E, Thomas Breu, Florian Meyer, Miriam Kaube

3. Individual result

3.1 DIN EN 1279-2

The dew point temperature of all supplied panes amounts to in new condition < -60° C

Table 1 Results of loaading of zeoliths

Pk nos.	Loading of drying medium T in %		Moisture absorption I in %
	T_i		
7	2.5	$T_{i,av}$ = 2.6	--
8	2.7		--
9	2.4		--
10	2.7		--
		T_f	
4	--	4.3	8.9
5	--	5	13
6	--	5.7	16
11	--	5.3	14
12	--	4.4	9.4
Arithmetic mean	--	$T_{f,av}$ = 4.9	I_{av} = 12

The following symbols have been used:

T_i = loading of drying medium in delivery condition
T_{iav} = average loading of drying medium in delivery condition
T_f = loading of drying medium acc. tor the climatic load
T_{fav} = average loading of drying medium acc. tor the climatic load
T_{cav} = average standart- moisture absorption capacityof drying medium
I_{av} = arithmatic mean of moisture absorption in %

4. Analysis

For the calculation of moisture absorption Iav an average standard moisture absorption capacity of drying mediumof T_{cav} = 22% is taken (**ift** test report 509 33586/2)

Summarising, following results have been determined

- average loading of drying medium in delivery condition	T_{iav} = 2.6%
- average loading of drying medium acc. to the climatic load	T_{fav} = 4.9%
- Avarage moisture absorption factor - Biggest single value of moisture absorption factors	I_{av} = 12% I = 16%
- Requirement acc. to DINEN 1279-2 on arithmetic mean - Requirement acc. to DIN EN 1279-2 on single value	$I_{av} \leq 20$ % $I \leq 25$%

While analysing the results in Table 1 the requirements of DIN EN 1279-2 of the laminated – insulation glass system

Eurotherm IGS

are fulfilled.

5. Summary of the test report no.: 12-003115-PR01 (PB-H01-09-de-01)

Laminated - insulating glass -
Results of moisture absorption acc. to DIN EN 1279-2

For details see test report

Client:
GLASTECH ProduKtions and Verfahrenstechnik GmbH
3363 Hausmening,
Austria

Commercial unit :
GLASTECH ProduKtions and Verfahrenstechnik GmbH
3363 Hausmening,
Austria

System description: testing centre not available
Product description: Eurotherm IGS
Moisture absorption factor I_{av} = 12%

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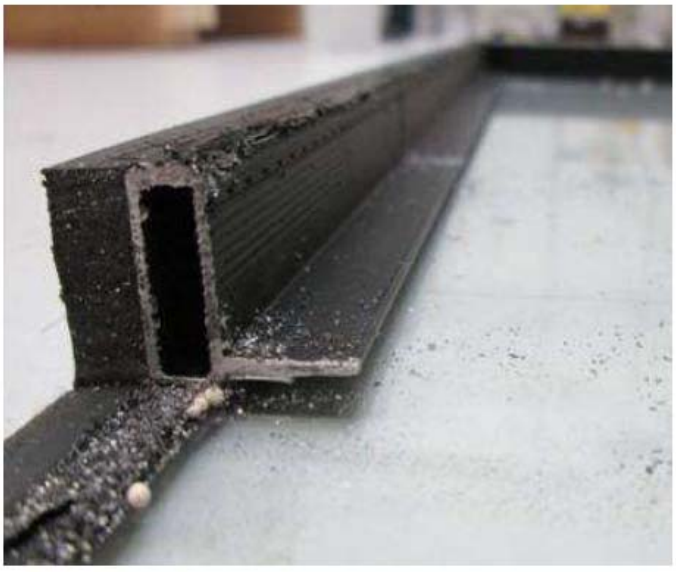
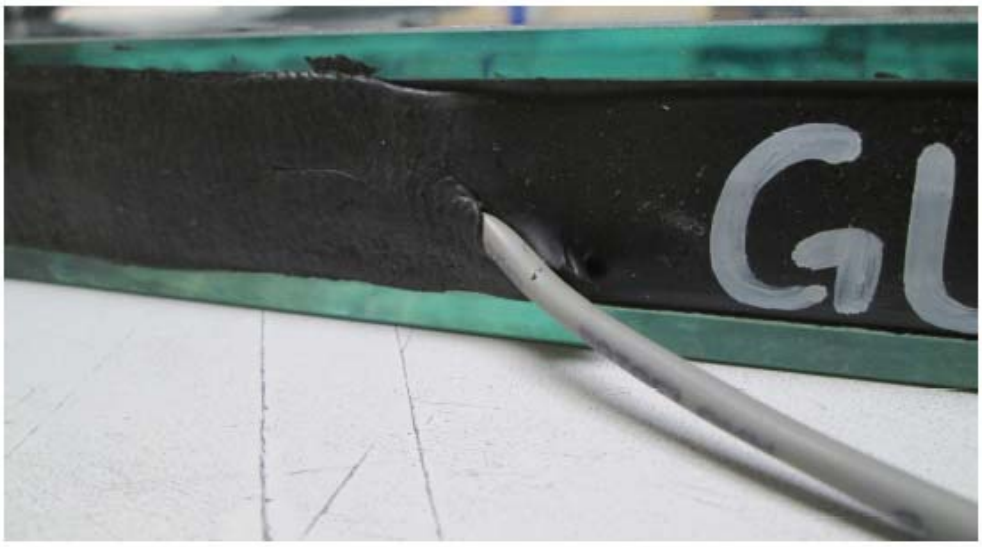
6. Attachment

Pic 1 : sample



Pic 2 : spacer with Gaurdrail

Pic 3 : Istallation device with blind



Pic 4 : Cable passage Edge sealing