

TEST REPORT : N° 2012B VIDO 15311

Including 4 pages + 2 annexes
Page 1/4

Mons, June 26th 2012

REQUESTED BY :

Saudi American Glass Company Ltd

PO Box 8418
11482 Riyadh
Kingdom of Saudi Arabia

REFERENCE OF THE REQUESTED :

Order 52728 – 21/02/2012

CONCERNED MANUFACTURER:

Saudi American Glass Company Ltd

PO Box 8418
11482 Riyadh
Kingdom of Saudi Arabia

NUMBER OF SAMPLES AND IDENTIFICATION :

Insulating Glass Unit - See page 2

PURPOSE OF THE REQUEST :

Initial Type Test

**Insulating Glass Unit : Gas leakage according to
EN 1279-3 ***

SAMPLES RECEIVED ON :

22/03/2012

TESTING DATE :

From 27/03/2012

COMMENTS :

* Test under accreditation



Notified body (Id.N°1174)

according to ART.18 of the « Construction Products Directive » CPD 89/106/EEC

SAMPLES DESCRIPTION

| | | | |
|--------------------------------|---|--------------|---------|
| Concerned manufacturer | Saudi American Glass Company Ltd | | |
| | PO Box 8418 11482 Riyadh Kingdom of Saudi Arabia | | |
| Production site | see product description | | |
| Commercial name of the product | / | | |
| Customer's references | / | | |
| Internal reference | VIDO 15311 | | |
| Sampling | / | | |
| Sampling information | Traceability of the samples is under responsibility of the manufacturer | | |
| Glass Composition | 4/12/4 | | |
| | With coating | Type coating | removed |
| | No | - | - |
| Samples | IGU – 10 samples see annex 1 | | |

INITIAL TEST ON INSULATING GLASS UNIT
IN COMPLIANCE WITH THE REQUIREMENTS OF THE STANDARD EN 1279-3

1. INDICATION OF GLASS UNITS AND INITIAL CHARACTERISATION (*)

| Sample number | |
|---------------|------------------------------------|
| 5 - 10 | Measurement of initial gas content |
| 3 - 6 - 7 | Measurement of gas leakage |
| 1 - 2 | Extra aged samples |
| 8 - 9 | Extra samples |
| 4 | Broken |

2. INITIAL GAS CONTENT (*)

| Sample number | Gas content (%) (1) | | |
|---------------|---------------------|----------------|----------------|
| | Ar | O ₂ | N ₂ |
| 5 | 91.3 | 1.7 | 7.0 |
| 10 | 92.3 | 1.5 | 6.2 |

3. GAS LEAKAGE RATE (*)

Ageing EN 1279-3 : 28 cycles = 2 weeks (from $-18 \pm 1^\circ\text{C}$ to $53 \pm 1^\circ\text{C}$ - 14°C/h) + 4 weeks - ($58.0 \pm 0.5^\circ\text{C}$ - HR > 95%)

| Sample number | Leakage Rate (Li) (2) | | Gas content (%) (1) | | |
|---------------|-----------------------|-----------------------|---------------------|----------------|----------------|
| | $\mu\text{l/hour}$ | $\text{\%}/\text{an}$ | Ar | O ₂ | N ₂ |
| 3 | 0.40 | 0.21 | 85.5 | 3.5 | 11.0 |
| 6 | 0.35 | 0.20 | 93.0 | 6.0 | 1.0 |
| 7 | 0.33 | 0.18 | 90.0 | 8.2 | 1.8 |

Remark(s) : None

- (1) For gas content, maximum uncertainty is estimated to 1.5% of the value of the result.
(2) For gas leakage, maximum uncertainty is estimated to 10% of the value of the result

4. EXAMINATION OF ASSEMBLED PARTS (*)

| | |
|---|--------|
| Thickness of the sample (mm) | 20 mm |
| Thickness of the spacer (mm) | 12 mm |
| Width of the internal seal (mm) | 4.8 mm |
| Minimum thickness of external seal (mm) | 5.6 mm |

Remark(s) : none

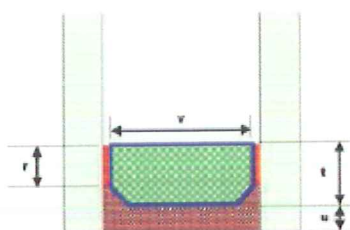


D. LIBERT
Head of Department

Glazing and Components - INISMa

I- Sample description

| | |
|--|--|
| Name of the Company | Saudi American Glass Company |
| Address | P.O Box 8418 Riyadh 11482 Saudi Arabia |
| A- IGU : Composition (Ex 4/12/4) dimensions : (L x l) | 502 * 352 mm |
| B- Spacer nature Supplier length x height | Aluminium Profilglass 490 * 340 mm |
| C- Type of assembly curved or angular pieces Angular pieces : nature dimensions | Curved |
| D- Dessicant Nature supplier Reference Number of filled side Quantity (g/m) | Molecular Sieves Grace 551 F 2 |
| E- Internal sealant Nature Supplier Reference Height (r) | Polyisobutylene Kommerling Naftotherm BU-S 4 mm |
| F- External sealant Nature Supplier Reference Height (u) | Silicone Dow Corning DC 3362 HD 6 mm |
| G- Gas Nature % | Argon 90 |
| Date of manufacturing | 11.03.2012 |



- v : largeur de l'espaceur
- t : hauteur de l'espaceur
- r : hauteur du mastic d'étanchéité dans le plan de la face i
- u : hauteur du mastic de scellement entre le dos de l'espaceur et la face extérieure du mastic (plus évident de l'espace isolant G)
- "v" et "t", respectivement la largeur et la hauteur de l'intercalaire. Cette mesure est à faire au pied à coulisse avec une précision du 1/10 de mm. Une mesure sera faite sur chaque cadre au milieu d'un grand côté ;

I- Summary of the report

See page hereafter

Summary of the report n°

Date : 26/06/2012

2012B VIDO 15311

Insulating glass unit — Evaluation of the gas leakage and gas concentration following EN 1279-3

For more details, see test report

Company Name : Saudi American Glass Company Ltd
Address : PO Box 8418
11482 Riyadh
Kingdom of Saudi Arabia

Manufacturer Name : Idem
Address :

System description :

Name of the product : IGU
1st sealant : PIB Kommerling Naftotherm BU-S
2nd sealant : Silicone DC 3362 HD
Spacer : Aluminium Profilglass
Desiccant : Molecular Sieve Grace 551F

Refer to test report n° _____ for moisture penetration index following EN 1279-2

Gas i:

Sample number :

Measured concentration c_i (%) :

Nominal concentration c_{i0} (%) :

Gas leakage L_i (%a⁻¹) :

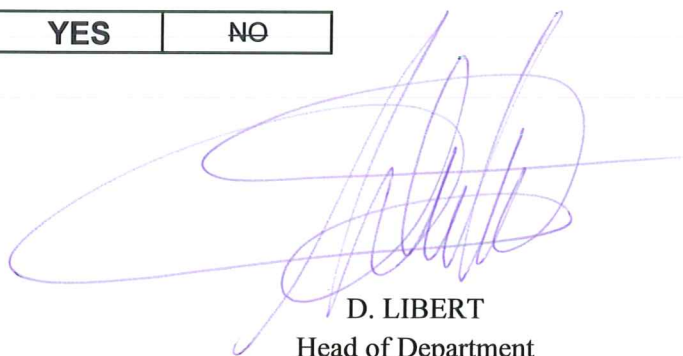
| Ar | | |
|------|-----|------|
| 3 | 6 | 7 |
| 85.5 | 93 | 90 |
| 90 | | |
| 0.21 | 0.2 | 0.18 |

System conformity

YES

NO

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