

## Test report

**Test report relating to a glass product after performing the Fogging test according to European standard EN 1279-6, concerning the product marked as: Sanco, manufactured by: Glas Ockels BV**

|                 |                                                                                       |
|-----------------|---------------------------------------------------------------------------------------|
| Report number   | 89202496-50                                                                           |
| Date            | 29 January 2013                                                                       |
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| Client          | Nedex Chemie Deutschland GmbH<br>Konrad- Zuse- Strasse 33<br>D 47445 Moers<br>Germany |
| Project number  | 89202496                                                                              |
| Project name    | Sanco                                                                                 |
| Number of pages | 8                                                                                     |

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## Contents

|          |                                  |          |
|----------|----------------------------------|----------|
| <b>1</b> | <b>Introduction</b>              | <b>3</b> |
| 1.1      | Purpose                          | 3        |
| 1.2      | Description of the samples       | 3        |
| 1.3      | Sampling procedure               | 3        |
| 1.4      | Application                      | 4        |
| 1.5      | Method of testing                | 4        |
| 1.6      | Put out to contract              | 4        |
| 1.7      | Privacy statement                | 4        |
| 1.8      | Remark concerning this report    | 4        |
| 1.9      | Notifications and accreditations | 4        |
| <b>2</b> | <b>Test results</b>              | <b>5</b> |
| <b>3</b> | <b>Conclusion</b>                | <b>6</b> |
| <b>4</b> | <b>References</b>                | <b>7</b> |
| <b>5</b> | <b>Signatures</b>                | <b>8</b> |

## 1 Introduction

### 1.1 Purpose

The tests have been performed in order to establish whether or not the product meets the requirements concerning the Fogging test of Annex C of the European standard EN 1279-6 [1].

### 1.2 Description of the samples

#### General

|                                    |                                                                            |
|------------------------------------|----------------------------------------------------------------------------|
| Name of the manufacturer           | Nedex Chemie Deutschland GmbH                                              |
| Address of the manufacturer        | Konrad- Zuse- Strasse 33<br>D 47445 Moers<br>Germany                       |
| Production plant of the samples    | Glas Ockels BV<br>Steenhouwer 29<br>9502 EV Stadskanaal<br>The Netherlands |
| Line ID where the samples are made | 1                                                                          |
| Production date                    | 20-9-2012                                                                  |
| Sampling date                      | 20-9-2012                                                                  |
| Trade mark and /or product name    | Sanco                                                                      |
| System description, file number    | 286358                                                                     |
| 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     | Nedex Zeolan K (NA3) 0.5-0.9 |
| INNER sealant                     |                              |
| Trademark / type of inner sealant | Nedex PIB 996                |
| Kind of inner sealant             | polyisobutylene (butyl)      |
| OUTER sealant                     |                              |
| Trademark / type of outer sealant | Nedex PS 998R                |
| Kind of outer sealant             | polysulfide                  |
| SPACER                            |                              |
| Trademark / type of spacer        | Profilglass, aluminium       |
| Trademark / type of corners       | bent                         |

### 1.3 Sampling procedure

The samples have been submitted by the manufacturer. The test house, acting as notified test body, has had no influence on the selection of the samples.

#### **1.4 Application**

The request for testing was submitted by the manufacturer on 24 September 2012. Assignment Form number: 11.A470\_rev2.

#### **1.5 Method of testing**

All applicable tests were performed according to the European standard EN 1279-6 Annex C [1].

#### **1.6 Put out to contract**

No tests were performed at third parties.

#### **1.7 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.

#### **1.8 Remark concerning this report**

For any other manufacturer this report is not automatically valid. The manufacturer for this report is defined under 1.2.

#### **1.9 Notifications and accreditations**

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 (accreditation number L 484) and EN 45011 Certification Body (accreditation number C058).

TÜV Rheinland Nederland B.V. has been accredited as Technical Service (Laboratory) by RDW competent Administrative Department (Approval Authority) for the Netherlands to grant approvals as mentioned in Directive 70/156/etc. and 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 (accreditation number RDW-99050043 01).

## 2 Test results

Test results after performing the Fogging test according to Annex C of the European standard EN 1279-6 [1].

### Requirements and results

| Required                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Value of the test | Pass / fail |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------|
| <b>Annex C (normative), Fogging test</b>                                                                                                                                                                                                                                                                                                                                                                                                                                |                   |             |
| Test pieces are subjected to visual inspection of the interior glass surfaces. The test pieces are conditioned for one week and then placed in the fogging test apparatus. After exposure, the test pieces are visually inspected again for evidence of fogging on the interior glass surfaces. No permanent visual condensation is permitted. If condensation occurs, re-examination is permitted after 7 days and then no permanent visual condensation is permitted. |                   |             |
| Visual inspection before the tests                                                                                                                                                                                                                                                                                                                                                                                                                                      | no fogging        | pass        |
| Visual inspection after the tests                                                                                                                                                                                                                                                                                                                                                                                                                                       | no fogging        | pass        |

### Additional test data

|                            | Required                                 | Test |
|----------------------------|------------------------------------------|------|
| Hot spot temperature [°C]  | ( $\geq 50$ - $\leq 60$ )                | 58   |
| Cold spot temperature [°C] | (27 K to 33 K) <<br>Hot spot temperature | 30   |
| Time [h]                   | (168 $\pm$ 4)                            | 168  |
| Date of test               | 29-11-2012 / 06-12-2012                  |      |

### 3 Conclusion

The tested glass product, marked by the client or manufacturer as Sanco, manufactured by Glas Ockels BV, with inner sealant with trade mark/type: Nedex PIB 996 and outer sealant with trade mark/type: Nedex PS 998R, meets the applicable requirements as stated in the European standard EN 1279-6 Annex C (Fogging test) [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.

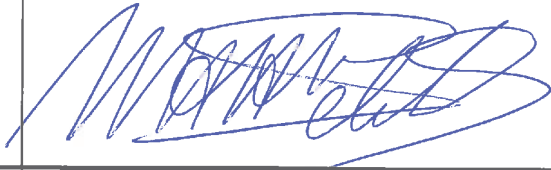
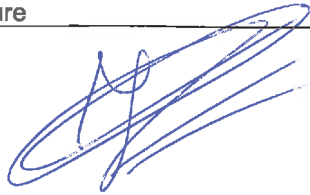
#### Remark 2

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 1279-6:2002 (E),  
Glass in building – Insulating glass units – Part 6: Factory production control and periodic tests,  
European Committee for Standardization, November 2002.

## 5 Signatures

|                               |                                                                                     |
|-------------------------------|-------------------------------------------------------------------------------------|
| <b>Author</b>                 | <b>Signature</b>                                                                    |
| Mr. M.A.A.M. Schets, B. Sc    |   |
| <b>Specialist</b>             |                                                                                     |
| <b>Peer review</b>            | <b>Signature</b>                                                                    |
| Mr. M.J.R. Luppens            |   |
| <b>Specialist</b>             |                                                                                     |
| <b>Approved by</b>            | <b>Signature</b>                                                                    |
| Mr. H. van Ginkel             |  |
| <b>Business field manager</b> |                                                                                     |

(This is the end of this report).