

## Test report

**Test report relating to a glass product according to European standard EN-ISO 12543-3, durability of laminated safety glass, concerning the product marked as trade mark: KIBING and type: laminated safety glass 33.2, manufacturer: KIBING SPECIAL GLASS ZHANGZHOU CO., LTD**

|                 |  |
|-----------------|--|
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| Date            | 23 April 2015  |
| Author(s)       | Mr. R. Brandhorst  |
| Client          | KIBING SPECIAL GLASS ZHANGZHOU CO., LTD<br>CHENG'AN ROAD, KANGMEI TOWNSHIP, DONGSHAN<br>COUNTY<br>ZHANGZHOU, FUJIAN, 363401<br>CHINA |
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Headoffice:

Boogschutterstraat 11A  
P.O. Box 541  
7300 AM Apeldoorn  
Tel. +31 (0)88 888 7 888  
Fax +31 (0)88 888 7 879

Locations:

Vissenstraat 6  
P.O. Box 541  
7324 AL Apeldoorn  
Tel. +31 (0)88 888 7 888  
Fax +31 (0)88 888 7 879

Eiberkamp 10  
P.O. Box 37  
9350 AA Leek  
Tel. +31 (0)88 888 7 888  
Fax: +31 (0)594 504 804

Josink Esweg 10  
P.O. Box 337  
7500 AH Enschede  
Tel. +31 (0)88 888 7 888  
Fax +31 (0)88 888 7 859

TÜV Rheinland Nederland B.V. is a registered company at the Dutch Chamber of Commerce under number 27288788  
info@nl.tuv.com  
www.tuv.com/nl

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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-ISO 12543-3 [1].

## 1.2 Description of the samples

### General

|                                    |  |
|------------------------------------|--|
| Name of the manufacturer           | KIBING SPECIAL GLASS ZHANGZHOU CO., LTD  |
| Address of the manufacturer        | CHENG'AN ROAD, KANGMEI TOWNSHIP, DONGSHAN COUNTY<br>ZHANGZHOU, FUJIAN, 363401<br>CHINA |
| Production plant of the samples    | CHENG'AN ROAD, KANGMEI TOWNSHIP, DONGSHAN COUNTY<br>ZHANGZHOU, FUJIAN, 363401<br>CHINA |
| Line ID where the samples are made | LG-1   |
| Production date                    | 2014-12-15   |
| Sampling date                      | 2014-12-15   |
| The product was marked as          | Trade mark: KIBING and type: laminated safety glass 33.2                               |
| Dimensions of the samples          | 300x150 mm   |

### Specific

|                                     |                           |
|-------------------------------------|---------------------------|
| Kind of glass                       | Laminated safety glass    |
| Type of the laminated safety glass  | Float                     |
| Nominal thicknesses                 | 6.76mm, 3mm/2x0.38pvb/3mm |
| Intermediate layer: type, thickness | PVB                       |

## 1.3 Sampling procedure

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 11<sup>th</sup> December 2014. Assignment Form number: 14.A335.

## 1.5 Method of testing

All applicable tests have been performed according to the European standard EN-ISO 12543-4 [2].

## 1.6 Put out to contract

The applicable tests were, under responsibility of Notified Body 1750, performed by China Building Material Test & Certification Group Co., Ltd. (CTC), No. 1, Guanzhuang Dongli, Chaoyang District, 100024 BEIJING, P.R. CHINA. The lab is accredited as ISO 17025 lab by CNAS (China National Accreditation Service for Conformity Assessment), registration number L 0690.

### **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 Notifications, accreditations, designations**

TÜV Rheinland Nederland B.V. has been notified by the Dutch Ministry of Infrastructure and the Environment as Notified Laboratory (number 1750) and Notified (Factory Production Control) Certification Body (number 0336) for the European Construction Products Regulation 305/2011 (EU).

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 Germany (KBA – E1) and the Netherlands (RDW – E4) for automotive safety glass (ECE R43, 92/22/EC, 2009/144/EC).

TÜV Rheinland Nederland B.V. has been recognised by the German Institute for building technics (DIBt) under number NL005 as test, control and certification body.

## 2 Test results

### 2.1 Requirements

#### EN-ISO 12543-3 § 5.1 High temperature test

When tested in accordance with the method given in EN-ISO 12543-4 [2] clause 5.3.2 and evaluated according to EN-ISO 12543-4 [2] clause 5.4, no faults (bubbles, delamination, haze or cloudiness) shall be found in three test specimens.

If faults are found in only one test specimen, three new test specimens shall be tested in accordance with EN-ISO 12543-4 [1] clause 5.4. No faults shall be found in any of these test specimens.

#### EN-ISO 12543-3 § 5.2 Humidity test

When tested in accordance with the method given in EN-ISO 12543-4 [2] clause 6.3.1 and evaluated according to EN-ISO 12543-4 [2] clause 6.4, no faults (bubbles, delamination, haze or cloudiness) shall be found in three test specimens.

If faults are found in only one test specimen, three new test specimens shall be tested in accordance with EN-ISO 12543-4 [2] clause 6.3.1 and evaluated in accordance with EN-ISO 12543-4 [2] clause 6.4. No faults shall be found in any of these test specimens.

#### EN-ISO 12543-3 § 5.3 Radiation test

When tested in accordance with the method given in EN-ISO 12543-4 [2] clause 7 and evaluated in accordance with EN-ISO 12543-4 [2] clause 7.5.1, the luminous transmittance of the three irradiated samples shall not be changed by more than

- a)  $\pm 3\%$  of their value before exposure for initial light transmittances of greater than 65%, or
- b)  $\pm 2\%$  of their absolute value for initial light transmittances of less than or equal to 65%.

When visually inspected, no faults (i.e. bubbles, delamination, haze or cloudiness) shall be found in three test specimens.

If faults are found in only one test specimen, three new test specimens shall be tested in accordance with EN-ISO 12543-4 [2] clause 7 and evaluated in accordance with EN-ISO 12543-4 [2] clause 7.5.1. No faults shall be found in any of these test specimens.

### 2.2 Test results

Test results after performing all applicable tests according to European standard EN-ISO 12543-4 [2].

#### High temperature test

| Sample Code | Type of test     | Fire resistant laminated safety glass y/n | Indoor / outdoor use? | Dimensions [mm] | Nominal thickness [mm] |
|-------------|------------------|---|-----------------------|-----------------|------------------------|
| 7338-01     | High Temperature | N   | outdoor               | 300x150         | 6.76                   |
| 7338-02     | High Temperature | N   | outdoor               | 300x150         | 6.76                   |
| 7338-03     | High Temperature | N   | outdoor               | 300x150         | 6.76                   |

| Sample Code | Type of test     | Cut or on size production | Edge type   | Edge protection | Supported edge marked y/n |
|-------------|------------------|---------------------------|-------------|-----------------|---------------------------|
| 7338-01     | High Temperature | cut                       | ground edge | NA              | N                         |
| 7338-02     | High Temperature | cut                       | ground edge | NA              | N                         |
| 7338-03     | High Temperature | cut                       | ground edge | NA              | N                         |

| Sample Code | Type of test     | Bubbles y/n | Size of bubbles | Delamination y/n | Cloudiness y/n |
|-------------|------------------|-------------|-----------------|------------------|----------------|
| 7338-01     | High Temperature | N           | NA              | N                | N              |
| 7338-02     | High Temperature | N           | NA              | N                | N              |
| 7338-03     | High Temperature | N           | NA              | N                | N              |

**Humidity test**

| Sample Code | Type of test | Fire resistant laminated safety glass y/n | Indoor / outdoor use? | Dimensions [mm] | Nominal thickness [mm] |
|-------------|--------------|---|-----------------------|-----------------|------------------------|
| 7338-04     | 6.3.1        | N   | outdoor               | 300x150         | 6.76                   |
| 7338-05     | 6.3.1        | N   | outdoor               | 300x150         | 6.76                   |
| 7338-06     | 6.3.1        | N   | outdoor               | 300x150         | 6.76                   |

| Sample Code | Type of test | Cut or on size production | Edge type   | Edge protection | Supported edge marked y/n |
|-------------|--------------|---------------------------|-------------|-----------------|---------------------------|
| 7338-04     | 6.3.1        | cut                       | ground edge | N               | N                         |
| 7338-05     | 6.3.1        | cut                       | ground edge | N               | N                         |
| 7338-06     | 6.3.1        | cut                       | ground edge | N               | N                         |

| Sample Code | Type of test | Bubbles y/n | Size of bubbles | Delamination y/n | Cloudiness y/n |
|-------------|--------------|-------------|-----------------|------------------|----------------|
| 7338-04     | 6.3.1        | N           | NA              | N                | N              |
| 7338-05     | 6.3.1        | N           | NA              | N                | N              |
| 7338-06     | 6.3.1        | N           | NA              | N                | N              |

**Radiation test**

| Sample Code | Type of test | Fire resistant laminated safety glass y/n | Indoor / outdoor use? | Dimensions [mm] | Nominal thickness [mm] | A-symmetrical y/n |
|-------------|--------------|---|-----------------------|-----------------|------------------------|-------------------|
| 7338-07     | Ultravitalux | N   | NA                    | 300x150         | 6.76                   | N                 |
| 7338-08     | Ultravitalux | N   | NA                    | 300x150         | 6.76                   | N                 |
| 7338-09     | Ultravitalux | N   | NA                    | 300x150         | 6.76                   | N                 |

| Sample Code | Type of test | Cut or on size production | Edge type   | Edge protection | Supported edge marked y/n | Side facing radiation source |
|-------------|--------------|---------------------------|-------------|-----------------|---------------------------|------------------------------|
| 7338-07     | Ultravitalux | cut                       | ground edge | N               | N                         | NA                           |
| 7338-08     | Ultravitalux | cut                       | ground edge | N               | N                         | NA                           |
| 7338-09     | Ultravitalux | cut                       | ground edge | N               | N                         | NA                           |

| Sample Code | Type of test | initial LT | > 65%? y/n | LT after exposure | delamination y/n | Report value [%] |
|-------------|--------------|------------|------------|-------------------|------------------|------------------|
| 7338-07     | Ultravitalux | 0.87       | Y          | 0.86              | N                | -1.2             |
| 7338-08     | Ultravitalux | 0.87       | Y          | 0.86              | N                | -0.9             |
| 7338-09     | Ultravitalux | 0.87       | Y          | 0.86              | N                | -1.0             |

### 3 Conclusion

The tested glass product, marked as trade mark: KIBING and type: laminated safety glass 33.2, manufactured by: KIBING SPECIAL GLASS ZHANGZHOU CO., LTD, meets the High temperature, High Humidity and Radiation requirements as stated in the European standard EN-ISO 12543-3 [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-ISO 12543-3:2011 (E),  
Glass in building – Laminated glass and laminated safety glass – Part 3: Laminated glass,  
European Committee for Standardization, August 2011.
- 2 European standard EN-ISO 12543-4:2011 (E),  
Glass in building – Laminated glass and laminated safety glass – Part 4: Test methods for durability,  
European Committee for Standardization, August 2011.
- 3 Report CTC, China Building Material Test & Certification Group Co. LTD., no. WTCE000317,  
dated 23rd April 2015.

## 5 Signatures

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

(This is the end of this report).