

TEST REPORT
EN 1051-2:2007
Glass in building — Glass blocks and glass pavers —
Part 2: Evaluation of conformity/Product standard

Report Reference No.....: 151210006SHF-BP-1R1

Prepared by (name and signature) ...: Mason Wang



Approved by (name and signature) ...: Jodie Zhou



Date of issue.....: January 5, 2016

Revised issue date: January 11, 2016 (Added Trade Mark)

Contents: Total test report 14 pages including:
 Report text: 7 pages
 Appendix A for product photos: 5 page
 Appendix B for copy of ISO 9001 certificate report: 1 page
 Appendix C for marking plate: 1 page

Testing Laboratory name: Intertek Testing Services Ltd., Shanghai

Address.....: Plant 7, No 6958 Daye Road, Fengxian District, Shanghai

Testing location.....: Same as above

Applicant's name: DEZHOU REBELI(JINGHUA) GLASS BLOCK CO., LTD

Address.....: JINGHUA ROAD, ECONOMIC-TECHINOLOGICAL
 DEVELOPMENT AREA, DEZHOU CITY SHANDONG CHINA

Test specification:

Standard: EN 1051-2:2007

Non-standard test method.....: None

Test item description.....: Glass Block

Trade Mark: JINGHUA

Model and/or type reference.....: 190×190×80mm, 90×190×80mm and 240×240×80mm

Manufacturer: DEZHOU REBELI(JINGHUA) GLASS BLOCK CO., LTD

Rating(s): Reaction to fire: Class A1

Summary of testing:

The submitted samples were tested in accordance with specified standards, and listed the result accordingly, refer to text for detail.

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|---|
| Test item particulars |
| Classification of installation and use : — |
| Supply Connection : — |
| Possible test case verdicts |
| - Test case does not apply to the test object : N/A |
| - Test object does meet the requirement..... : P (Pass) |
| - Test object does not meet the requirement : F (Fail) |
| Testing |
| Date of receipt of test item : November 17, 2015 |
| Date (s) of performance of tests : From December 10, 2015 to January 5, 2016 |
| General remarks: |
| <p>This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.</p> <p>Throughout this report a comma (point) is used as the decimal separator.</p> <p>When determining the test result, measurement uncertainty has been considered.</p> |

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|---|
| General product information: |
| <p>This report included 3 models:</p> <ol style="list-style-type: none"> 1. 190×190×80mm <p>This model has seven colours (Cloudy Clear, Cloudy Pink, Cloudy Blue, Cloudy Green, Cloudy Grey, Cloudy Brown and Cloudy Turquoise). All of them were the same in material used, manufacturing process, length, width and thickness.</p> <ol style="list-style-type: none"> 2. 90×190×80mm (Cloudy Clear) 3. 240×240×80mm (Cloudy Clear) <p>The products photos refer to Appendix A.</p> |

| EN 1051-2:2007 | | | |
|----------------|---|--|---------|
| Clause | Requirement - Test | Result - Remark | Verdict |
| 4.1 | <p>Conformity with the product family glass blocks and glass paver units.</p> <p>Glass composition: Glass blocks shall be manufactured from soda lime silicate glass conforming to EN 572-1:</p> <p>Silicon dioxide (SiO₂): 69 % to 74 % Calcium oxide (CaO): 5 % to 14 % Sodium oxide (Na₂O): 10 % to 16 % Magnesium oxide (MgO): 0 % to 6 % Aluminium oxide (Al₂O₃): 0 % to 3 % Others: 0 % to 5 %</p> | Cloudy Clear 190x190x80mm Glass composition Silicon dioxide (SiO ₂): 72.13 % Calcium oxide (CaO): 7.94 % Sodium oxide (Na ₂ O): 12.80 % Magnesium oxide (MgO): 3.99 % Aluminium oxide (Al ₂ O ₃): 2.53 % Others: 0.61 % | Pass |
| | | Cloudy Clear 90x190x80mm Glass composition Silicon dioxide (SiO ₂): 72.69 % Calcium oxide (CaO): 7.80 % Sodium oxide (Na ₂ O): 13.10 % Magnesium oxide (MgO): 3.76 % Aluminium oxide (Al ₂ O ₃): 2.06 % Others: 0.59 % | Pass |
| | | Cloudy Clear 240x240x80mm Glass composition Silicon dioxide (SiO ₂): 72.58 % Calcium oxide (CaO): 8.15 % Sodium oxide (Na ₂ O): 12.12 % Magnesium oxide (MgO): 3.73 % Aluminium oxide (Al ₂ O ₃): 2.39 % Others: 1.03 % | Pass |
| | | Cloudy Pink 190x190x80mm Glass composition Silicon dioxide (SiO ₂): 72.75 % Calcium oxide (CaO): 7.66 % Sodium oxide (Na ₂ O): 13.02 % Magnesium oxide (MgO): 3.71 % Aluminium oxide (Al ₂ O ₃): 2.30 % Others: 0.56 % | Pass |

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| | | | |
|-----|---|--|------|
| 4.1 | <p>Conformity with the product family glass blocks and glass paver units.</p> <p>Glass composition: Glass blocks shall be manufactured from soda lime silicate glass conforming to EN 572-1:</p> <p>Silicon dioxide (SiO₂): 69 % to 74 % Calcium oxide (CaO): 5 % to 14 % Sodium oxide (Na₂O): 10 % to 16 % Magnesium oxide (MgO): 0 % to 6 % Aluminium oxide (Al₂O₃): 0 % to 3 % Others: 0 % to 5 %</p> | Cloudy Blue 190x190x80mm Glass composition Silicon dioxide (SiO ₂): 72.77 % Calcium oxide (CaO): 8.07 % Sodium oxide (Na ₂ O): 11.62 % Magnesium oxide (MgO): 3.78 % Aluminium oxide (Al ₂ O ₃): 2.89 % Others: 0.87 % | Pass |
| | | Cloudy Green 190x190x80mm Glass composition Silicon dioxide (SiO ₂): 72.77 % Calcium oxide (CaO): 7.85 % Sodium oxide (Na ₂ O): 12.86 % Magnesium oxide (MgO): 3.70 % Aluminium oxide (Al ₂ O ₃): 2.08 % Others: 0.74 % | Pass |
| | | Cloudy Grey 190x190x80mm Glass composition Silicon dioxide (SiO ₂): 72.00 % Calcium oxide (CaO): 8.09 % Sodium oxide (Na ₂ O): 11.26 % Magnesium oxide (MgO): 3.63 % Aluminium oxide (Al ₂ O ₃): 3.94 % Others: 1.08 % | Pass |
| | | Cloudy Brown 190x190x80mm Glass composition Silicon dioxide (SiO ₂): 72.93 % Calcium oxide (CaO): 8.19 % Sodium oxide (Na ₂ O): 12.08 % Magnesium oxide (MgO): 3.96 % Aluminium oxide (Al ₂ O ₃): 2.34 % Others: 0.50 % | Pass |
| | | Cloudy Turquoise 190x190x80mm Glass composition Silicon dioxide (SiO ₂): 74.62 % Calcium oxide (CaO): 6.86 % Sodium oxide (Na ₂ O): 12.96 % Magnesium oxide (MgO): 3.77 % Aluminium oxide (Al ₂ O ₃): 1.68 % Others: 0.11 % | Pass |

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| 4.1 | <p>Allowable tolerance on dimensions</p> <p>When measured, the dimension of glass blocks shall be acceptable for the appropriate class.</p> <table><tr><th>Class of blocks</th><th>Tolerance (mm)</th></tr><tr><td>I</td><td>± 1.0</td></tr><tr><td>II</td><td>± 1.5</td></tr><tr><td>III</td><td>± 2.0</td></tr></table> <p>Square and rectangular faced glass blocks shall be acceptable when the squareness of the corner is 90°±2°.</p> <p>When measured, glass block shall be acceptable as below: bulges are ≤ 2.0 mm, depressions are ≤ 2.0 mm and seal does not protrude above the edges of the block.</p> | Class of blocks | Tolerance (mm) | I | ± 1.0 | II | ± 1.5 | III | ± 2.0 | <p>Nominal size: 190x190x80mm Class of blocks: Class I Max. tolerance of length: -0.8 mm Max. tolerance of width: -0.9mm Max. tolerance of thickness: 0.6mm Squareness: 90° No depressions or bulges were larger than 2.0mm</p> | Pass |
|---|--|-----------------|----------------|---|-------|----|-------|-----|-------|---|------|
| | | Class of blocks | Tolerance (mm) | | | | | | | | |
| | | I | ± 1.0 | | | | | | | | |
| | II | ± 1.5 | | | | | | | | | |
| | III | ± 2.0 | | | | | | | | | |
| | <p>Nominal size: 90x190x80mm Class of blocks: Class I Max tolerance of length: -0.2 mm Max. tolerance of width: -0.2 mm Max. tolerance of thickness: 0.2 mm Squareness: 90° No depressions or bulges were larger than 2.0mm</p> | Pass | | | | | | | | | |
| <p>Nominal size: 240x240x80mm Class of blocks: Class II Max. tolerance of length: -0.6mm Max. tolerance of width: -0.6 mm Max. tolerance of thickness: 1.2 mm Squareness: 90° No depressions or bulges were larger than 2.0mm</p> | Pass | | | | | | | | | | |
| <p>Allowable tolerance on mass</p> <p>When measured, the average mass shall be within ± 10 % of the nominal mass.</p> | <p>Nominal mass: 2.5 kg (190x190x80 mm) 1.4 kg (90x190x80 mm) 3.9 kg (240x240x80 mm)</p> <p>Tolerance of mass: - 7.3 % (190x190x80 mm) 0.1 % (90x190x80 mm) 0.1 % (240x240x80 mm)</p> | Pass | | | | | | | | | |
| <p>Compression strength</p> <p>When glass blocks are tested, they shall comply with following, average 7.0 N/mm² and minimum single value 6.0 N/mm².</p> | <p>Cloudy Clear 190x190x80mm Average value: 8.0 N/mm² Minimum single value: 6.9 N/mm²</p> | Pass | | | | | | | | | |
| | <p>Cloudy Clear 90x190x80mm Average value: 7.2 N/mm² Minimum single value: 6.2 N/mm²</p> | Pass | | | | | | | | | |
| | <p>Cloudy Clear 240x240x80mm Average value: 7.6 N/mm² Minimum single value: 6.3 N/mm²</p> | Pass | | | | | | | | | |

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| | | | |
|---------|--|---|------|
| 4.2.2.2 | Safety in the case of fire - Reaction to fire | Class A1, without testing (Basic soda lime silicate glass products are product/material that do not require to be tested for reaction to fire) | Pass |
| 4.2.2.6 | Safety in use – Mechanical resistance Resistance against sudden temperature changes and temperature differentials. | Cloudy Clear 190x190x80mm Cold water bath: 21 °C; Hot water bath: 51 °C; No cracks or broken. | Pass |
| | | Cloudy Clear 90x190x80mm Cold water bath: 21 °C; Hot water bath: 51 °C; No cracks or broken. | Pass |
| | | Cloudy Clear 240x240x80mm Cold water bath: 21 °C; Hot water bath: 46 °C; No cracks or broken. | Pass |
| 4.2.2.7 | Safety in use – Mechanical resistance The mechanical strength is determined by the compressive strength in 4.1. | Cloudy Clear 190x190x80mm Average value: 8.0 N/mm ² Minimum single value: 6.9 N/mm ² | Pass |
| | | Cloudy Clear 90x190x80mm Average value: 7.2 N/mm ² Minimum single value: 6.2 N/mm ² | Pass |
| | | Cloudy Clear 240x240x80mm Average value: 7.6 N/mm ² Minimum single value: 6.3 N/mm ² | Pass |
| 6 | Evaluation of conformity | | |
| 6.1 | General The conformity of the component with the requirements of this standard shall be demonstrated by: Clause 6.2 and 6.3 | | |
| 6.2 | Initial type testing or assessment Shall be performed to demonstrate conformity with this standard or be demonstrated according to information given in this standard | Refer to clause 4.1 to 4.2.2.7 | Pass |
| 6.3 | Factory production control The producer shall maintain, establish, document and have a production control system to ensure that the products placed on the market conform to that stated performance characteristics. | The manufacture has established a Quality management system according to EN ISO 9001. See Appendix B | Pass |
| 7 | Marking, labelling and packaging | | |

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| | | | |
|-----|--|--|------|
| 7.1 | <p>Marking and labeling</p> <p>Product which conform to the requirements of this document shall be clearly and indelibly marked by the manufacturer either on their package or on an adhesive label with following information:</p> <ul style="list-style-type: none">a) the number and the year of this European Standardb) the manufacturer's or supplier's identificationc) the product name and batch number | See Appendix C 'Copy of marking plate' | Pass |
|-----|--|--|------|

*****End of Page*****

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Appendix A

Product photos



Fig.1 Cloudy Grey



Fig.2 Cloudy Grey



Fig.3 Cloudy Green



Fig.4 Cloudy Green

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Fig.5 Cloudy Turquoise



Fig.6 Cloudy Turquoise



Fig.7 Cloudy Blue



Fig.8 Cloudy Blue

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Fig.9 Cloudy Pink



Fig.10 Cloudy Pink



Fig.11 Cloudy Brown



Fig.12 Cloudy Brown

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Fig.13 Cloudy Clear 190mmx190mm



Fig.14 Cloudy Clear 190mmx190mm



Fig.15 Cloudy Clear 90mmx190mm



Fig.16 Cloudy Clear 90mmx190mm



Fig.17 Cloudy Clear 240mmx240mm



Fig.18 Cloudy Clear 240mmx240mm

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Appendix B

ISO 9001 Certificate Report


QMS CERTIFICATE

Registration No.: 02515Q20194R3M

DEZHOU REBELI (JINGHUA) GLASS BLOCK CO.,LTD
(Certificate of Organization Code: 32843323-X)
**Jinghua Road, Economic-Technological Development Area, Dezhou City,
Shandong China. Zip code: 253007**

Has been found to comply with
GB/T19001-2008 idt ISO9001:2008
"Quality management systems - Requirements"

This registration is subject to the following area
**Dezhou Rebeli (Jinghua) Glass Block Co., Ltd, located at Jinghua
Road, Economic-Technological Development Area, Dezhou City, Shandong
China, is involved in Production and Management Of Hollow Glass Blocks.**

Approved organization will be monitored annually by GJC, and this certificate is valid, when
surveillance tag has been stucked to specified site on it, Effective certificate would be inquired
to www.cnca.gov.cn or www.gj-c.cn.

Initial Issuing Date: **Jun 20, 2006**
Revision Date: **Aug 07, 2015**
Valid Period: **Jun 10, 2015 ~ Jun 09, 2018**

General Manager: 

surveillance tag site surveillance tag site

 **QMS
CERTIFICATION**  **MEMBER OF MULTILATERAL
RECOGNITION ARRANGEMENT**  **MANAGEMENT SYSTEM
CNAS C025-Q** 


BEIJING GUOJIANLIANXIN CERTIFICATION CENTER, LTD
Add: No. 11, Sanlihe Road, Haidian District, Beijing, China (100831) <http://www.gj-c.cn>

*****End of Page*****

Appendix C

Copy of Marking Plate

Copy of marking plate

| | |
|---|---------------------|
|  | |
| DEZHOU REBELI(JINGHUA) GLASS BLOCK CO., LTD | |
| 16 | |
| EN 1051-2 | |
| Glass blocks, intend to be used in buildings and construction works | |
| Model: 190×190×80mm & 90×190×80mm | |
| Reaction to fire: | A1* |
| Bullet resistance: | NPD |
| Explosion resistance: | NPD |
| Burglar resistance: | NPD |
| Resistance against sudden temperature changes and temperature differentials (residual stress): | 30K |
| Compressive strength: | 7 N/mm ² |
| Direct airborne sound insulation: | NPD |
| Thermal properties: | NPD |
| Radiation properties: | NPD |
| Light transmission and reflection: | NPD |
| Solar energy characteristics: | NPD |

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| | |
|---|---------------------|
|  | |
| DEZHOU REBELI(JINGHUA) GLASS BLOCK CO., LTD | |
| 16 | |
| EN 1051-2 | |
| Glass blocks, intend to be used in buildings and construction works | |
| Model: 240×240×80mm | |
| Reaction to fire: | A1* |
| Bullet resistance: | NPD |
| Explosion resistance: | NPD |
| Burglar resistance: | NPD |
| Resistance against sudden temperature changes and temperature differentials (residual stress): | |
| | 25K |
| Compressive strength: | 7 N/mm ² |
| Direct airborne sound insulation: | NPD |
| Thermal properties: | NPD |
| Radiation properties: | NPD |
| Light transmission and reflection: | NPD |
| Solar energy characteristics: | NPD |

Note:

1. If the CE marking is reduced or enlarged the proportions given in the above graduated drawing must be respected.
2. The various components of the CE marking must have substantially the same vertical dimension, which may not be less than 5 mm.
3. CE marking and label shall be affixed visibly, legibly and indelibly.

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