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一 金晶集团简介

Brief Introduction of Jinjing Group
Jinjing Group Brief Production:

Total Capital: RMB 8 Billion

Employee: 9000

Turnover/Year: RMB 9 Billion

Factories location: Zibo; Qingdao; Tengzhou; Weifang; Langfang; Beijing
Long history of Jinjing since 1904
Development History of Jinjing

-LOW IRON GLASS
-FIBER GLASS
-LOW E GLASS

STRATEGIC PARTNERS
PPG Industries
SAP
HayGroup

ERP
HUMAN RESOURCES
Company Structure of Jinjing

Jinjing Group Co Ltd

Total: 13 Float Glass Lines
Production Capacity: 7000T/D

- Sino material PPG Jinjing Fiber Glass
- Shandong Haitian Bio-Chemical Co., Ltd. Soda
- Qingdao Jinjing Glass Co Ltd Patterned Glass
- Shandong Jinjing science & technology stock co ltd
- Beijing Jinjing Wisdom Solar Materials Co., Ltd.

- Jinxing Processing Factory
- Boshan 600Tons*1 line Processing F Low E Off
- Langfang 600tons*2 lines
- Tengzhou 600tons*2 lines 700tons*2 lines 600tons/day CN*2 Lines 600tons/day
- Zhangdian PPG *2 Lines 600tons/day
Brief introduction of Jinjing
Brief introduction of Jinjing
Brief introduction of Jinjing

JINJING Products

- Float clear Glass
  - building glass
  - Auto/PDP glass
- Tinted & Reflective Glass
  - Euro bronze, euro grey
  - Ford blue, F-green
- Ultra Clear Glass
  - Building ultra clear
  - Solar low iron glass
- Processing Glass
  - Building glass
  - Auto glass
  - Industrial glass
- Low-E Glass
  - On line Low-e
  - Off-line Low-e
- Patterned Glass
- Soda Ash
- Fiber Glass

Quality In Everything We Do
Stratagem Associate:
二 金晶浮法玻璃产品

Jinjing Float Glass
1, Jinjing Ultra Clear Glass Products

金晶超白玻璃具有优越的物理、机械及光学性能，可象普通的优质浮法玻璃一样进行各种深加工，如钢化、镀膜、彩釉、热弯、夹胶、中空等。

Jinjing ultra clear glass has super physical, mechanical and optical characteristics. Just as regular glass, it can be fabricated, such as tempering, coating, screen, laminating, insulating, and so on.
Jinjing Ultra Clear Glass Products

- Total investment over 150 million USD.
- The production line equipped with worldwide advanced software and hardware.
- The first piece of Chinese extra clear glass produced on 25th June, 2005 (filled up the blank in China)
- Jinjing's ultra-thick (22mm/25mm) & ultra-jumbo (>15m) extra clear glass filled up the blank in the world.
- The global leader in extra clear glass production & sales for consecutive 5 years.
金晶超白与普通玻璃比较（加工前）
Comparison of Jinjing ultra clear glass and regular glass before being fabricated

金晶超白与普通玻璃比较（磨边后）
Comparison of Jinjing ultra clear glass and regular glass after being grinded
Screen printing ultra clear glass
Laminated ultra clear glass with tinted PVB
## Optical parameters

<table>
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<tr>
<th>Glass Thickness</th>
<th>Visible Light Transmittance</th>
<th>Visible Light Reflectivity</th>
<th>Solar Radiant coefficient</th>
<th>Shading coefficient</th>
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<th>Sound insulation</th>
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<td>Direct Penetrate</td>
<td>Reflectivity</td>
<td>Absorb</td>
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<td>(W/m²K)</td>
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<td>1.05</td>
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<td>3.2mm</td>
<td>91.5</td>
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<td>2</td>
<td>91</td>
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<td>8</td>
<td>4</td>
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<td>5</td>
<td>88</td>
<td>1.00</td>
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<tr>
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<td>6</td>
<td>87</td>
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<tr>
<td>22mm</td>
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<td>9</td>
<td>85</td>
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<td>9</td>
<td>84</td>
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2. Jinjing Tinted & Reflective Glass Products

Eurobronze Float Glass

Golden bronze Float Glass
Jinjing Tinted & Reflective Glass Products

Eurogrey Float Glass

Jinjing Grey Float Glass
Jinjing Tinted & Reflective Glass Products

F-Green Glass

Ford Blue Glass
### 3. Jinjing float glass regular size

<table>
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<tr>
<th>厚度</th>
<th>2mm, 2.4mm, 2.8, 3mm, 3.2mm</th>
<th>4mm, 5mm, 6mm, 8mm, 10mm, 12mm</th>
<th>15mm, 19mm, 22mm, 25mm</th>
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<tr>
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<td>1830x2134mm</td>
<td>1830x2440mm, 2250x3210mm</td>
<td>2134x3300mm, 2440x3300mm</td>
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<td>1830x2440mm</td>
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<td>2440x3660mm, 3300x5100mm</td>
<td>3300x6500mm, 3300x7500mm</td>
</tr>
<tr>
<td></td>
<td>1650x1830mm</td>
<td>3300x6000mm; 3300x7000mm</td>
<td>3300x9000mm, 3300x11000mm</td>
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<tr>
<td></td>
<td>2134x3300mm</td>
<td></td>
<td>3660x12500mm</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>3660x18000mm</td>
</tr>
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</table>
Jinjing ultra clear glass-Jumbo sizes

Max Size: 3.66x18m

Max Thickness: 25mm
三、金晶Low-E玻璃产品

Jinjing Low-E Glass Products
1. Online Low E

Online CVD = Hard coat

Applied on a substrate of clear float glass in the tin bath by a pyrolytic process (CVD) method, and the processing temperature between 650-700 degree, it has stable chemical & mechanical performance with high transmission, high durability & easy processing.
◆ Produce plant:
—— Hualiang glass co.,ltd (zibo)

◆ Coating technology:
—— Independent R&D technology.

◆ Coating feature:
—— CVD process, glass & coating film integration;

◆ Capacity:
—— 3-12mm; 3300X600mm max;
    6 million M2/ year;
Online Low-E Glass Products

在线lowE镀膜2 x 3.3米大板弯钢化玻璃

家电用lowE玻璃
2. Offline Low-E

Offline=Soft coat

- Targets (Material)
  -500 ~ -600V
  (-)
  (+)

Vacuum chamber

- Glass
  - Plasma
  - Different transmittance to light and higher reflectance far infrared

- Which various metal or other depositions on the surface.
Coating film & thickness

**Upper film**
- SnO₂ : F

**Bottom film**
- SnO₂

**Glass**

**Online Low-E**

- 300~400nm
- 650~700 degree temperature, CVD coating

**80~100nm**
- Normal temperature coating on glass surface

**Single silver**
- ZnO₂
- ZnO₂
- Ag
- Glass

**Double silver**
- ZnO₂
- ZnO₂
- Glass

**150~180nm**
- Normal temperature coating on glass surface
Jinjing Low-E Glass Products

金晶三银LowE镀膜玻璃具有可远程加工性能。大规模的工业化生产和严格的质量控制，使用户在应用中可实现各种钢化、夹胶、弯钢化等深加工。

Increasing “Selectivity”
Increasing Number of Ag-layers (0-3)

普通白玻、单银、双银和三银LowE对太阳能的透过

S = Tvis/Tsolar
## JINJING Bent Temperable low E products

### Optilite
- **US/S1.16**
- **S1.16NT**
- **US/S1.10+**
- **S1.10+NT**
- **US/S83**
- **S83NT**

### Optisolar
- **UD/D45**
- **UD/D49**
- **UD/D50II**
- **UD/D60II**
- **UD/D70**
- **UD/D70II**
- **UD/D80**

### Solarban
- **S70II**
- **S60II**
- **S50II**
- **70XL**
- **72**
Offline Low-E Glass coating line

Most advanced low E coating line of Leybold Germany
四、金晶加工玻璃产品

Jinjing further processing Glass Products
1. what we can do

- Optimized cutting glass
- CNC Edge worked glass (grinding, beveling, polishing, etc.)
- Tempered/Heat strengthened (flat & bent) glass
- Heat Soak Tested Fully tempered glass
- Laminated glasses
- High performance insulating glass
- Decorative glazing
- Screen printing glass (ceramic frit)
Kuraray Glass Laminating Solutions

is pleased to confirm that the company:

ZIBO JINXING GLASS CO., LTD.
has successfully passed the qualification process of SentryGlas® on Sep., 2014.

This certificate is valid until the date shown in the below table as long as your manufacturing process for laminated safety glass remains unchanged. Renewal is subject to validation of newly supplied laminates.

Date: 2014. 10. 21

By Kuraray: 

Validity:

<table>
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<th>Qualification Date</th>
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</table>

In performing this certification, Kuraray (Shanghai) Co., Ltd. does not assume or undertake to discharge any responsibility of the inspected company, which is the sole party responsible for the processing of its products in conformity with applicable laws, regulations, norms and the SentryGlas® laminating guidelines.
3, TPS (thermo plastic spacer)

TPS refers to thermo plastic spacer, it is a new type of Warm Edge System of IGU which made by a special kind of butyl included with integrated desiccant.
3, processing glass machines
laminated glass line & autoclave
五、包装及认证

Jinjing Package & certification
Jinjing ultra clear glass-Jumbo sizes

New Berlin Airport—12mm 3.3x13.2m
Partner: SEELE/SEDak

Dubai Fire Tower—10mm 3.3x6m
Partner: Emirates Glass LLC
Jinjing ultra clear glass-Jumbo sizes

Jumbo Size Delivery 2011
Jinjing float glass - Packing and loading

A Frame Packing --> 6m
Jinjing float glass-Packing and loading

Metal Frame Packing

Plywood Case
Jinjing laminated glass-Packing and loading
Jinjing tempered glass-Packing and loading
Jinjing Soft coat low E glass-Packing
Jinjing ultra clear glass-Certificates

Quality Management System Certificate of Conformity

Shandong Jinjing Science & Technology Stock Co., Ltd.
Wangjiangong, Renhe Town, High-New Technology Zone, Zibo, Shandong

Date of Validity: 2010.07.08 – 2013.07.07

Director: S. Chang
Date: July 8, 2010

Shanghai Audit Center of Quality System

SGS Test Report

No. SH0726S5CHEM
Date: May 27, 2007

SGS assures the photo as original report only.

Proposal of Assessment Report in Compliance with REACH

NO.: CRSC-RG-08002011

According to the client's request (Contract No. CRSC-08002011), we assessed the situation of our client's product (Neoprene, Silicone, CRSCD-08002011), which is referenced in REACH Regulations, including product registration, references, etc. SGS (Submission of Very High Concern) and the client's responsibilities and obligations of the product under REACH Regulations.

The result of the assessment and our conclusions are described as follows.

1. CLIENT'S INFORMATION

Name: Shandong Jinjing Science & Technology Stock Co., Ltd.
Address: Wangjiangong, Renhe Town, High New Technology Zone, Zibo, Shandong

2. PRODUCT IDENTIFICATION

Product Name: Neoprene
Product model: NA
Product category: Rubber
Form: Solid, NA

3. PRODUCT SUBSTANCES INFORMATION

3.1. SUBSTANCES as standalone or in preparations

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>Toxicity</th>
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</thead>
<tbody>
<tr>
<td>NA</td>
<td>NA</td>
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</tr>
</tbody>
</table>

3.2. SUBSTANCES in Articles intended to be sold

HANGZHOU REACH PRODUCT TECHNIC CO., LTD.
SAI Global hereby grants:

Shandong Jinjing Science and Technology Stock Co., Ltd.
Wangzhuang, Bosh Town New and Hi-Tech Development Zone, Zibo, China

StandardsMark Licence

Manufactured to:
AS/NZS 4666:2012 - Insulating glass units

The StandardsMark Licence is the right to use the StandardsMark as shown below only in respect of the goods described and detailed in the Schedule which are produced by the Licensee or on behalf of the Licensee and which comply with the appropriate Standards referred to above as from time to time amended. The Licence is granted subject to the rules governing the use of the StandardsMark and the Terms and Conditions for certification and licence. The Licensee covenants to comply with all the Rules and Terms and Conditions.

Licence No: SMK40069
Issued: 5 November 2013
Expires: 4 November 2016

End of Record

Licence No: SMK40069
Issued Date: 5 November 2013

* For details of manufacture, refer to the licence
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六、经典案例

Jinjing Typical Projects
Typical Projects

国家体育场—鸟巢工程The National Stadium – The Birds’ Nest（12mm超白＋1.52PVB＋12mm超白双面中国红彩釉夹胶玻璃；16666m²）(12mm ultra clearglass + 1.52PVB + 12mm ultra clearglass silk printed with Chinese red figure)

重要数据：长330米（1,083英尺），宽220米，高69.2米，建筑面积25万m²，容纳观众近十万人。Important data: 330 meters long, 220 meters wide, and 69.2 meters high, with building area 250000 sqm, and seating capacity about 100000.
国家游泳中心-水立方工程National Aquatics Center – The Water Cube（6mm超白+1.52PVB+6mm超白夹胶玻璃；8mm超白+1.52PVB+8mm超白夹胶玻璃；15mm超白钢化；10000m2）
Typical Projects

配置：15mm 超白弯钢玻璃 + 2.28mm SGP + 15mm 超白弯钢玻璃
尺寸：12563mm X 2578mm
半径：4953.4mm
重量：约2.5吨/块

Shanghai Apple Store
Typical Projects

杜拜塔Dubai Tower
（15mm超白+2.28PVB+15mm超白夹胶玻璃，1500m²；12mm超白钢化；5000m²）
Jinjing's position - Tallest buildings

- **SH Financial Center**: 492m
- **Shanghai Tower**: 632m
- **Burj Dubai**: 828m
Singapore Pore project
Thank You!

Ms Megan
TEL: 86-533-3584605-804   FAX: 86-533-3583228
MOBILE: 0086-13853333590 (What's App / Wechat)
WEB: www.cnggg.cn
EMAIL: megan_zhang@aliyun.com
       zhangxiaoyan@cnggg.cn