



CNBM

中建材国际贸易有限公司

CNBM INTERNATIONAL CORPORATION

Borosilicate Special Glass



COMPANY PROFILE

CNBM is the largest comprehensive building materials industry group in China that integrates scientific research, manufacturing and logistics into one entity, which has been ranked on the Fortune Global 500 list for eight consecutive years. CNBM International Corp., established in 2004, is the business entity for trade and logistic of CNBM Group.

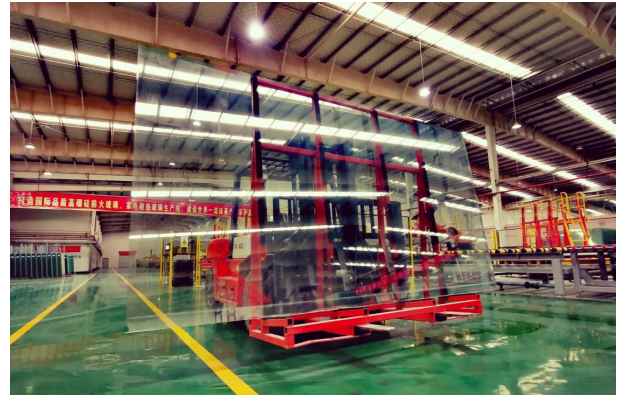
CNBM International is highly recognized by its business partners and clients all over the world and has established good business relationship with the customers in over 160 countries and regions all over the world.



Product Introduction

Brief introduction of borosilicate glass

Borosilicate glass, also known as high borosilicate glass, is known as the "King of Glass". Its main component is about 80% silicon oxide and about 10% boron oxide. At this time, both silicon oxide and boron oxide can basically form micro-tetrahedrons. Framework (the more the micro tetrahedral framework in the glass is, the greater the ionic bond force will become, contributing to a more stable performance), the other is about 5% of stable oxide and about 5% of flux.



Because of the ionic bond, it has good thermal properties, mechanical properties and chemical stability, such as low expansion coefficient, high softening temperature, high strength, low density, and not easy to mold and fog.

Borosilicate 3.3 heat-resistant glass

A

Borosilicate 3.3 heat-resistant glass has good thermal properties, mechanical properties, optical properties and ultra-high chemical stability. The visible light transmittance is 92%, and the high light transmittance in the near-infrared and ultraviolet bands exceeds 90%. The sign of fluorescence is far lower than that of soda lime glass.

B

Water resistance

International Organization for Standardization 719: Grade A

Acid resistance

International Organization for Standardization 195: Grade A

Alkali resistance

International Organization for Standardization 695: Grade B

C

Thickness range:
2.5-15mm
Max size:
4800×2440mm.

D

It is widely used in household appliances, electronics, instrumentation, opticals, aerospace and other fields.

Borosilicate 4.0 fire-resistant glass

01

The maximum fire resistance time is 3 hours

Ultra-low expansion coefficient, which is 2/5 of the expansion coefficient of ordinary soda lime silica glass

Ultra-high mechanical strength, 2 times stronger than ordinary soda lime silica glass

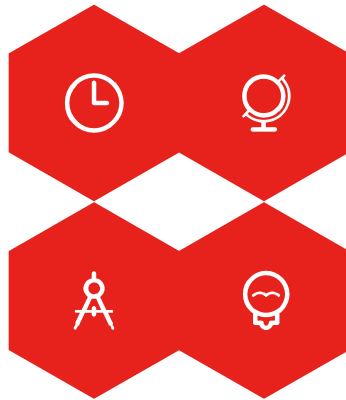
04

Thickness range: 4-15mm

Maximum size: 4800*2440mm

Can be punched, cut, sandblasted, and coated to make fireproof glass

Can be cut, edged, punched, tempered, etc.



02

Small specific gravity, more than 8% lighter than ordinary soda lime silica glass

Ultra-clear, light transmittance above 92%

Excellent resistance to acid and alkali corrosion and water resistance

03

Can be used in fireproof curtain walls, partition walls, platforms, day lighting roofs, smoke-proof vertical walls, railings, doors and windows, elevator shafts, rail transit platform screen doors, rail locomotive doors and windows and other fields. Equipped with water spray, it can be used to replace Class A insulation type fireproof glass system, which can be widely used in building atrium, pedestrian street fireproof glass and building fireproof partition.

Actual measured parameters of borosilicate glass

Item	Unit	4.0	3.3
Density	(g/cm ³)	2 . 283	2 . 227
Young's modulus		67 . 92	61 . 7
Poisson's ratio	kN/mm ²	0 . 2	0 . 19
Vickers hardness		589 . 2	530
Bending strength	Mpa	130 (tempered)	
Coefficient of linear thermal expansion	$\alpha^* 10^{-6} k^{-1} (20 - 300 \text{ } ^\circ\text{C})$	4 . 018	3 . 298
Specific heat	Cp (20 ~ 100 °C)	0 . 829	0 . 829
Thermal shock temperature	°C	> 300 (tempered)	> 225 (non- tempered)
Maximum long term use temperature	°C	450	450
Maximum short term use temperature	°C	500	500
Softening Point	°C	843 . 8	820 . 7
Annealing point	°C	593 . 2	565 . 5
Strain point	°C	543 . 1	515 . 5

Black float glass >>>

Black float glass is the PG series glass developed for car sunroofs and side windows which has extremely beneficial heat insulation function.

Application: Car privacy glass, Building glass, Home furniture glass.

Important benefits:

- Lower light transmittance
- Good privacy protection effect
- Great color uniformity
- 1.3-19mm thickness



Architectural glass



Automobile glass



Home appliances glass

■ Transmittance of Black Float Glass

Thickness	Visible light transmittance(%)
2.0mm	39.84
4.0mm	18.17
6.0mm	7.7
8.0mm	3.69
10.0mm	1.59
12.0mm	0.75

Product Application >>>

(I) Borosilicate 3.3 heat-resistant glass

Electric oven baffle Induction cooker panel Cinema projector lens Projector lens



(II) Borosilicate 4.0 fire-resistant glass



Glass curtain wall



Fire-resistant partition



Smoke-prevent hanging wall



Fireproof doors and windows



Engineering Case



■ Borosilicate 4.0 fire-resistant glass



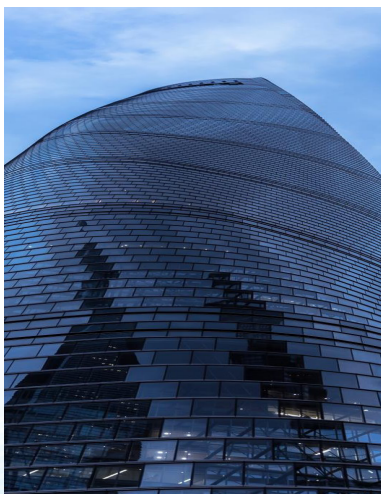
1. Name: Xiongan train station
2. Max.size: 4000*2200mm
3. Glass structure: laminated, hollow



■ Borosilicate 4.0 fire-resistant glass



1. Name: Shenzhen airport
2. Max.size: 3585*1915mm
3. Glass structure: laminated



■ Borosilicate 4.0 fire-resistant glass



1. Name: Shanghai Center Building
2. Max.size: 2694*1215mm
3. Glass structure: monolithic



Add: Floor 17th, No.4 Building, Zhuyu International Commercial Center,
No.9 Shouti South Road, Haidian District ,Beijing 100048,China.

Tel: 010-57971075

Mob: 18210035131

E-mail: Joeqiao@cnbmexp.com