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广东恒保安防科技有限公司
GUANGDONG HENGBAO DEFENSE TECHNOLOGY CO., LTD
鹤山市恒保防火玻璃厂有限公司
HESHAN HENGBAO FIRE RESISTANT GLASS FACTORY CO., LTD
香港福普思防火建材有限公司
HONGKONG FIREPROS BUILDING MATERIALS LIMITED

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(广州分公司)

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防火玻璃国家标准参编企业

产品认证：防火玻璃、防火窗、
玻璃防火门、防火卷帘等系列产品
生产、销售、设计、安装、维修、
防火玻璃幕墙、防火玻璃门、防火
玻璃隔断、防火玻璃屏风等系列产品

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香港福普思防火建材有限公司

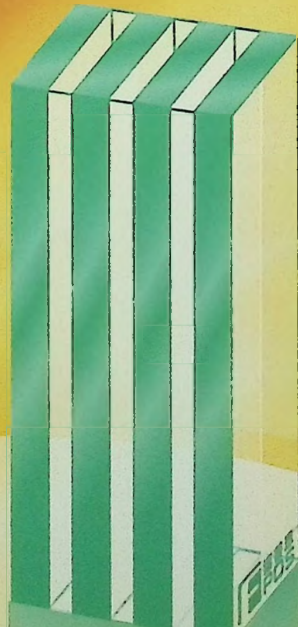
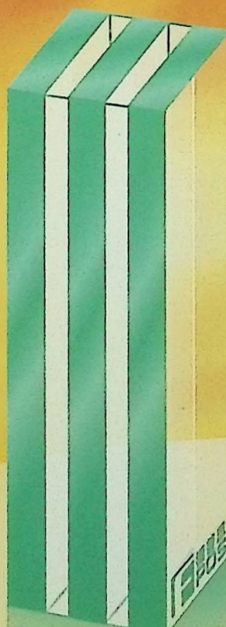
HONGKONG FIREPROS BUILDING MATERIALS CO., LTD

——与欧洲同步的新型水晶硅防火玻璃

PARALLEL WITH EUROPEAN FIRE RESISTANT GLASS

《New

FIREPROOF | INSULATION | STABLE
防火 | 隔热 | 稳定



ABOUT US

HongKong Firepros Building Materials Limited is a registered in HongKong, specializing in the introduction and marketing of international high class fire prevention building materials professional company. Mainly engaged in the world's high class fire products. Now it has successfully introduced the European high class fire resistant glass (the 2nd generation crystal silicon new fire resistant glass).

Factories in mainland China production, the product has passed BSEN1364, BSEN1634, BS476 Part22, AS1530.4, GB15763.1 multiple domestic and GB standards of testing, Since the product appereal on the market, it has been greeted by the owner professionals, high-end customers. Fpos is a kind of sustainable stability and green environmental protection type of insulation quality fire-resistant glass, recognized as the most internationally high-end product, with a 5 years warranty period.

In 2015, Fpos was awarded the "MOST FAVORED PRODUCT BY ENGINEERS" .

In 2016, the new high-quality crystalline silicon fireproof glass specially used for external walls won the "STAR PRODUCT AWARD" and "TECHNOLOGICAL INNOVATION AWARD";

In 2017, the fireproof window special fireproof glass won the "NETWORK POPULARITY AWARD" and "ANNUAL STAR PRODUCT AWARD";

In 2018 aluminum doors and windows curtain wall new products expo fire platform, lighting roof glass won the "ANNUAL STAR PRODUCT AWARD", and the building doors and windows curtain wall industry jinxuan award "THE MOST INNOVATIVE PRODUCTS";

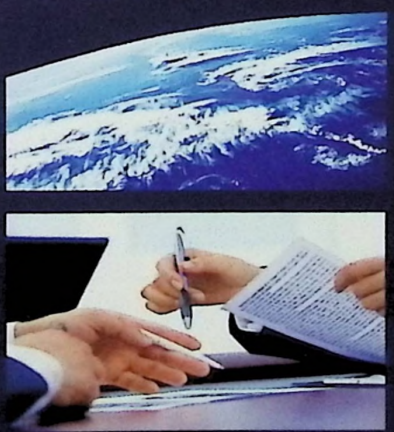
In 2019 China window and curtain wall 2019 innovation award, CCC certified super large class a fireproof window won "STAR PRODUCT AWARD OF THE YEAR".

The successful introduction and production of Fpos crystal silicon fireproof glass fill up the gap that there is no high-end fireproof glass in China.





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Our products have passed many fire test in China Mainland, Hong Kong, Macao, Taiwan, Singapore, India, UK and other countries and regions.

FIRE RESISTANT CLASSIFICATION

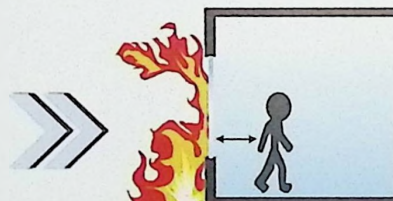
E=Integrity Only

Prevent the hot toxic gases from penetrating into the nonfire side.



EW=Integrity & Low Radiation

Control of the transmission of radiated heat below a specific level



EI=Integrity+Insulation

Limited mean temperature rise on the unexposed side (e.g. $\leq 140^{\circ}\text{C}$ average, $\leq 180^{\circ}\text{C}$ maximum)



Example: EI30=fire resistant classification of 30 minutes integrity and 30 minutes insulation

A Better Choice with Fpos FR Glass

Fire protection solutions have to be targeted to suit different specific requirements. Architects are looking for elegant, transparent and visually appealing designs which comply with the International Building Code. For investors, building owners and facility managers the priority is high quality, with less maintenance period, high class of reliability and affordability performance. Installers and fabricators will considering of fire-resistant glass whether it is available in ranges of practical and approved sustainable solutions within high quality.

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Performance Of Fpos

- Unrivalled range of tested and approved framing solutions for internal doors, screens and floors as well as external facade/skylight/Floor applications
- Complete product range to meet the requirements for various international fire test standards (EN, BS, AS, GB)
- More than 100 approvals in various framing systems according to international test reports
- Designed to be combined with additional functional properties such as sound insulation, low-e, solar control, impact absorption performance and others
- Suitable for large projects with complex safety and security requirements to achieve high levels of protection (high-rise buildings, sport arenas and stadiums, schools, hospitals, airports, parliament buildings and railway stations)
- Technical Advice and Support for project specific solutions from Hengbao
- Application temperature stability (from -5 °C up to +45 °C)

Within these varying demands for the global market. Our research and development programme meet with such complex products requirement to cater for the involvement of all who are part of the process. Leading the China market with our advance technology product and offering people a safer place to live are part of Firepos' business objective. We will constantly improve the quality and performance of both our products and services.

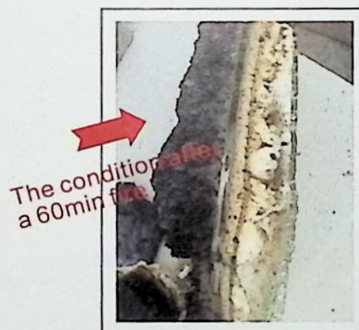


Product Introduction

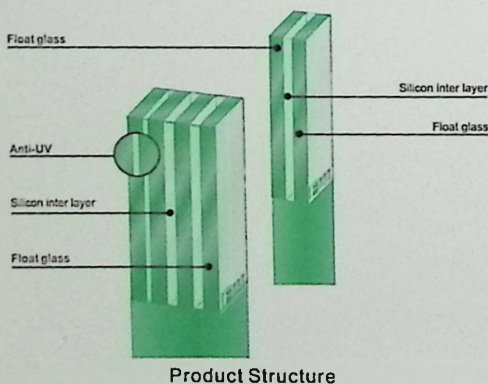
FPOS fire resistant glass use new type of hard inorganic transparent fire resistant materials which introduced by our company. It has advantages of high strength, high adhesion, high transparency, high stability, high weather resistant and good fireproof performance, etc. FPOS is an advanced fire integrity/insulation glass with sustainable, stable and eco-friendly, its core is high quality crystalline silicon fire hard glue. It can bonded to glass with various forms, combined into a variety of fire performance and strength function of the product.

Fire Resistant Principle

When the accident happen, the fire side of float glass will break quickly after high temperature, the crystal silicon fireproof glue will begin foam and expansion (foam and expansion ratio of 10 times), absorb the heat from the flame combustion, and formation an opaque fireproof sheet. It has strong firmness, can effectively cut off the flame, smoke and toxic gases. It can also block the heat from the flame.



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ADVANTAGES AND CHARACTERISTICS

It is a sustainable stable green and high-quality fire resistant glass.

Its fireproof glue is a kind of hard and inorganic crystal silicon fireproof glue. The surface glass can be tempered and can be produced large area of fire resistant glass to meet the special requirements of designers.

Meet the fire safety design requirements of 1h, 2h, 3h, 4h fire integrity or fire insulation



It is a class EI type of fire resistant glass, which can make the fire site from more than 1000°C down to below 140°C. It has passed the British Standard, European Standard, Australian Standard and other standard tests.

It is truly a kind of sustainable and stable fire resistant glass. With 5 years warranty and the service life of 10 years or more. Without bubbles, won't get yellowing, discoloration or degumming.

10mm FPOS fire resistant glass can meet 135min fireproof and heat radiation, which creates the world's best-performing and thinnest fire resistant glass.

FIREPROS fireproof glue adopts imported food-grade raw materials: Non-toxic, Harmless and eco-friendly.

Comparison between FPOS fire resistant glass and the traditional fire resistant glass in the aspects of performance and characteristics:

	Fireproof Glue	Fire side burst	Fire side fall off	The interlayer is foamed. Fire insulation is less than 140°C	Heat radiation	Fire Integrity	Free warranty Period	Stability	Price	The usage of Europe and other developed countries
SGU	×	×	×	×	×	✓	2 years	Normal	Normal	seldom
DGU	Soft, Organic	✓	✓	✓	✓	✓	2 years	Normal	Normal	seldom
FPOS	Hard, Inorganic	✓	✓	✓	✓	✓	10 years ★	Very stable	high	common

Remark: SGU=Single-layer Fire Resistant Glass Unit;
DGU=Double-layer Glass Fire Resistant Glass Unit;

★ As a general rule, Interior used have a warranty within 10 years, and exterior used have a 5 year warranty

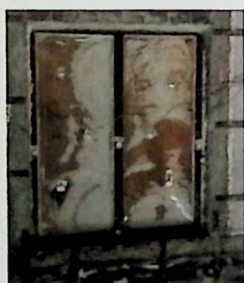
TEST OF FPOS RESISTANT GLASS

FPOS fire resistant glass delivers superior fireproof and insulation performance. Even with only 4mm intumescent interlayer, it retains its radiation protection for a long time after the loss of thermal insulation performance. The 10mm FPOS fire resistant glass has successfully created the world's thinnest and highest-performing 120 minutes low radiation and fire-rated glass on Jun. 2nd, with the structure of 3mm glass + 4mm intumescent interlayer + 3mm glass.

Variation during fire test of EW120 Glass



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0:01:30



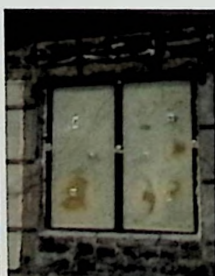
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0:37:02

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0:45:50



0:55:46



1:00:40



1:10:50



1:15:40



1:39:50



1:48:48



1:52:58



2:00:55



2:14:02



2:14:47



The condition of the fire surface after testing

TESTING OF FPOS FIRE RESISTANT GLASS

Sept. 15, 2014	Hong Kong	1hr fire testing of EI60 fire rated partition system for externally used 3000mm x 3000mm 55mm (European Standard)
Mar. 11, 2015	Hong Kong	3.5hrs fire testing of EI150/E215 fire rated partition system 3000mm x 3000mm 69mm (European Standard)
May. 6, 2015	Shanghai	2hrs fire testing of EW120 fire rated partition system 2000mm x 2500mm 21mm (British Standard, European Standard and Australian Standard)
May. 14, 2015	Hong Kong	2hrs fire testing of EI120 fire rated glazing window and door system 3000mm x 3000mm 41mm (European Standard and Australian Standard)
Jun. 2, 2015	Hong Kong	2hrs fire testing of EW120 fire rated partition system 1800mm x 2000mm 10mm (British Standard)
Jun. 18, 2015	Hong Kong	1hr fire testing of EI60 fire rated glazing window and door system 3000mm x 3000mm 26mm (European Standard and Australian Standard)
Dec. 16, 2015	Singapore	2hrs fire testing of EW120 fire rated partition system 3000mm x 3000mm 15mm (British Standard)
Jan. 11, 2016	Singapore	0.5hr fire testing of EI30 fire rated glazing door system 3000mm x 3000mm 15mm (British Standard)
Jun. 15, 2016	Hong Kong	1hr fire testing of EI60 inclined glazed partition system with butt joint 3000mm x 3000mm 34mm (European Standard)
Oct. 4, 2016	Hong Kong	1hr fire testing of EI60 load bearing insulated glazing floor system or skylight 3200mm x 4200mm 58mm (European Standard)
Feb. 7, 2017	Taiwan	1 hr fire testing of EI60 fire rated glazing window system 3000mm x 2000mm 43mm (Taiwan Standard)
Feb. 21, 2017	Macau	2hrs fire testing of EW120/EI30 fire rated glazing window system 2000mm x 2100mm 21mm (British Standard)
Feb. 23, 2019	Macau	1hr fire testing of EI60 fire rated glazing window and door system 3000mm x 2900mm 25mm (British Standard)

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TEST REPORT OF INCLINED FPOS FIRE RATED GLAZING PARTITION SYSTEM WITH BUTT JOINT

FORTE **HONG KONG FIRE RESISTANCE TEST REPORT**

INCLINED GLAZED PARTITION SYSTEM WITH BUTT JOINTS
in accordance with BS EN 12964-1: 1999

Test Sponsor: Hong Kong Fireproof Building Materials Ltd/
Hoshang Hongshao Fire Resistant Glass Factory Co., Ltd
No. 8 Foshan Industry Area, Foshan Town,
Nanhai City, Guangdong, China.
Tel: 86-0755-8210018 Fax: 86-0755-8210030

Test Laboratory: Forte Testing and Consultants Company Limited
Forte International
Flat 31, 3/F, Sky Loft, 9 Hui Weng Road,
Tsuen Wan, New Territories, Hong Kong
Tel: 852-2152 0628 Fax: 852-2152 2727

Report Number: IT 16-155
Date of Issue: 2016-07-18

WILL be accepted by Hong Kong Fireproof Building Materials Ltd. (HKB) for specific laboratory activities as listed in the HKBAS Director of Accredited Laboratories. The results shown in the report were generated by the laboratory in accordance with terms of accreditation. This report may not be reproduced, stored in a retrieval system or used in any way without prior written approval from FORTE.

HONGKONG Approved Signatory: 
Dr. Chan Yuh Kit

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FORTE **REPORT no.: IT 16-155**

1. Scope of Test
The report was a record of a fire resistance test conducted by Forte Testing and Consultants Co., Ltd, in conformity with requirements in BS EN 12964-1: 1999 "Fire resistance tests for non-structural elements - Part 1: Slab" and particular requirements in BS EN 12964-1: 1999 "Fire resistance tests - Part 1: Slab" and particular requirements in BS EN 12964-1: 1999 "Fire resistance tests - Part 1: Slab". The test specimen was an inclined glazed partition system with butt joints. The specimen was supplied by Hong Kong Fireproof Building Materials Ltd and Hoshang Hongshao Fire Resistant Glass Factory Company Limited, the Sponsors.

The specimen achieved the following fire resistance:

TESTED PROPERTY (F)	RESISTANCE (F)	INSULATION (F)	RESISTANCE (F)
Structural Integrity	60 Minutes	Firework	Max. Temp. Rise
Gas Leakage	60 Minutes	Firework	Average Temp. Rise
Crack Penetration	60 Minutes	Firework	Max. Temp. Rise

2. Test Information

Test Laboratory: FORTE Testing and Consultants Company Limited
Test Location: West Side of Hui Weng Road, Sky Loft Road, Shatin, Buxton District, Shatin, Guangdong Province, China

Test Sponsors: Hong Kong Fireproof Building Materials Limited
Hoshang Hongshao Fire Resistant Glass Factory Company Limited

Class Permit Manufacturer: Hoshang Hongshao Fire Resistant Glass Factory Company Limited

ID no. of the Specimen: QT 16-0734

Date Received: 2016-05-30

Test Number: QT 16-0734
A total of two sets of report (Report no. IT16-063 and IT16-155) with identical content had issued at request of the Sponsors.

Date Tested: 2016-06-15 **Start Time:** 14:54

Approved Test Operator: Mr. Tang Shui Fai

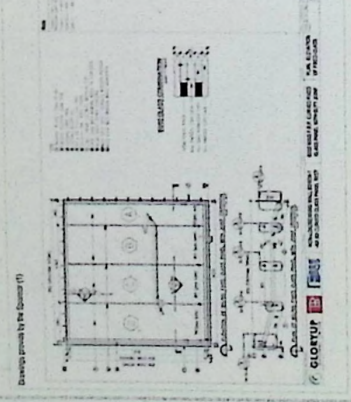
Witness of the Test: Mr. Jui Lee & Mr. Lu Shu Qing, Official Designate of the Sponsors

Report Issue Record: Version 1 - 2016-07-18

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FORTE **REPORT no.: IT 16-155**

2.3 Drawings as Specified provided by the Sponsor (Total 3 pages)



Drawings provided by the Sponsor (1)

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FORTE **REPORT no.: IT 16-155**



Photo 6. Unexposed surface of the specimen at 60 minutes of test.

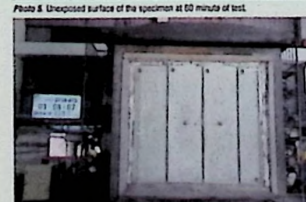
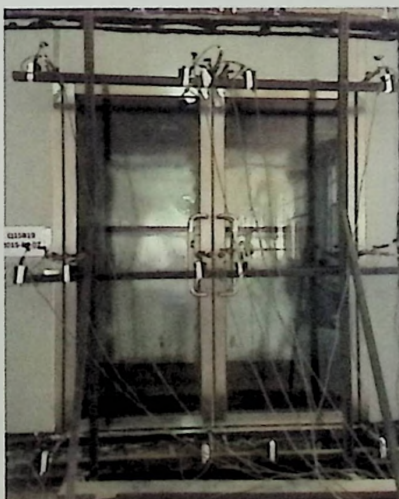
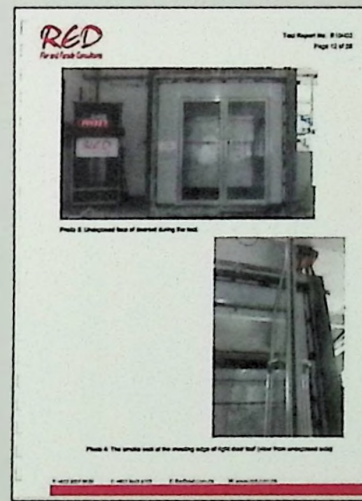
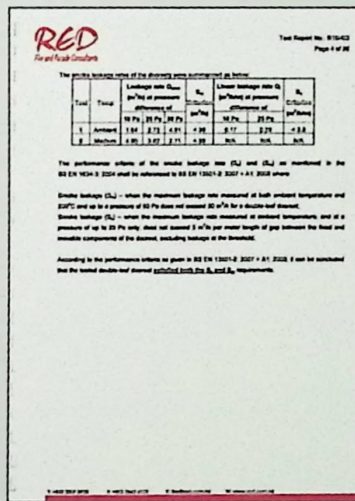


Photo 6. Unexposed surface of the specimen at the end of test.

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SMOKE CONTROL, FLEXIBILITY AND TENSION TESTING OF DOOR

Smoke control test in accordance with European Standard BSEN



Promotion Letter

Dear Sir/Madam,

**Experience Sharing Seminar by Fpos on
Latest Development of Fire Resistant (FR) Glass at HongKong**

The Code of Practice for Fire Safety in Building 2011 which enacted on 1 April 2012 has promulgated various new fire safety concept / standards, inter alia, BS 1365 and 1364 for Fire Barrier (Fire Resistant Partitions and Flooring) to respectively substitute the obsolescing BS 476 Part 21 and Part 22, and a new BS EN 1634 fire safety standard for Fire Rated Doors, Partitions, roofing and Floors. A new EN 12543-4 is also introduced to assess the Durability and UV-Resistance of FR glass. Users may be badgered with the new standards when selecting FR glass for their projects.

Hong Kong Firepros Building Materials Limited with our core production plant in China is the unique FR glass manufacturer in Asia patent to produce Europe standard BS EN 1364/1634, Australia standard AS 1530.4 FR Glazing wall / partition/ door system, and BS EN 1365 standard FR Glazing Roof and Floorings. All our products have also passed the durability and UV-resistance test according to the standard of EN 12543 Part 4.

The quality and services pledge of Fpos FR glazing and fire-rated glass flooring are well-recognized in Hong Kong, and can be underpinned our project references in a number of Government and Famous Company's project, namely, K-21 Redevelopment Scheme, ISTA College, Chinese University etc.

Fpos also successfully launched our products abroad. In China, a new development named China Mobile Headquarter, Tianjin Lujiazui Square and Lujiazui Hongqiao Metropolitan Hotel, Beijing Hengda riverside north bank due to its new codes in China as well as luxurious design and costly unit price, has selected Fpos FR glass to fulfill the Architect's innovative design to arrange a display-area for the tenants space use. In view of our customer-oriented attitude in the course of our services and unique FR glazing production experience, representatives from HongKong Firepros were invited by a number of Government Officials, Architect firms in Hong Kong to share with them our products and experience on various aspects on the latest development of EN grade FR glass. In Saudi Arabia Unite, the project of HARAMAIN HIGH-SPEED RAIL applied large quantity of the Fpos FR glazing, due to the unique production experience, long term of quality guarantee and professional services.

Fpos believes that professional and dedicated customer-service is equally important to quality products. While FR glass has been regarded as a mysterious building element for decades due to its patent nature, Fpos is pleased to help our client to select the most-effective FR glass for your project.

As a FR glass producer in China, we are pleased to attend your workplace to share with you our experience on any of the following issues on FR glass:

1. Compare the new EN 1364/ 1634 and 1365-2 standard on fire resistant elements with the obsolescing BS 476;
2. New innovative segmented curved butt-joint FR glass (frameless) for 60/60 launched;
3. Compare China-made FR glass with EN grade FR glass
4. Means to select durable, UV-resistant and reliable FR glazing; and
5. Aim for the latest development of 240/240 glass partition fire test on year 2017.

Interested party could send your request to e-mail 426595866@qq.com or www.firepros.hk. The visual-aid will be in Chinese and the experience sharing session can be conducted in English or Cantonese.

Yours faithfully,
William Chen
Managing Director
Hong Kong Firepros Building Materials Limited

E 60 / B 1.00

E60 Fire Resistant Glass for Energy-saving Fire Rated Window

High transmittance, Energy-saving, Fireproof

Technical Data

Fire prevention shatterproof glass for the inside application

CLASSIFICATION

EW

B

TECHNICAL DATA

Fire opposition (GB15763.1-2009).....E 60

Allowed dimensions.....Vary according to glass construction, frame system, element type and land.
The allowed mass of the national licensing are absolutely to be kept.

Thick tolerance.....+2/-1 mm

Length tolerance.....+2/-2 mm

Pendulum blow (EN 12600).....1(B)1

UV Solidly (EN ISO 12543-4 Pt.6).....In addition to Norm default: none bubble education or Discoloration
after 2000 hours of radiotherapy.

Temperature area of application.....+45°C / -7°C

Dangerous contents materials.....None

Element thickness.....10mm (4mm+2mm+4mm)

Dimensions area single disc.....≤1500mm x 2500mm

Weight.....23 kg/m²

Sound absorption Rw (EN 140-3).....30 dB

Light transmission (EN 410).....86%

Light reflection (external / internal).....8%/8%

U-Value, W/m²K (EN 673).....3.8

g-Value.....0.47

Energy transmission.....64%

Energy reflection
(external / internal).....7%/7%

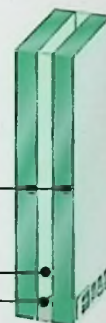
PRODUCT DATA

Tempered shatterproof glass

≤1500×2500, 4mm Tempered

Foaming interlayer

TPS-Spacer



EW 30 - 120

EW30~120 Fireproof, Insulated, Thermal Radiation

30mins ~ 120mins (A cost-effective fire resistant glass)

Technical Data

Fire prevention shatterproof glass for the inside application

CLASSIFICATION



TECHNICAL DATA

Fire opposition (EN 1364-1)..... EW 30 - 120 / EI 30

Allowed dimensions.....Vary according to glass construction, frame system, element type and land.
The allowed mass of the national licensing are absolutely to be kept.

Thick tolerance.....+2/-1 mm

Length tolerance.....+2/-2 mm

Pendulum blow (EN 12600).....1(B)1

UV Solidly (EN ISO 12543-4 Pt.6).....In addition to Norm default: none bubble education or Discoloration
after 2000 hours of radiotherapy.

Temperature area of application.....+45°C / -7°C

Dangerous contents materials.....None

Element thickness.....	10mm	15mm	21mm
Dimensions area single disc.....	≤780mm x 2090mm	≤1433mm x 2888mm	≤885mm x 2335mm
Weight.....	21 kg/m ²	33 kg/m ²	48 kg/m ²
Sound absorption Rw (EN 140-3).....	N/A	N/A	N/A
Light transmission (EN 410).....	86%	84%	82%
Light reflection (external / internal).....	8%/8%	8%/8%	8%/8%
U-Value, W/m ² K (EN 673).....	3.8	4.2	4.9
g-Value.....	0.47	0.58	0.66
Energy transmission.....	64%	60%	56%
Energy reflection (external / internal).....	7%/7%	7%/7%	7%/7%

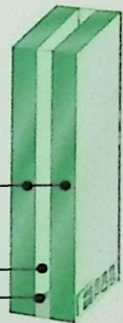
PRODUCT DATA

Tempered shatterproof glass

≤ 1500x3000, 3mm Tempered
≤ 1800x3500, 5mm Tempered
≤ 2300x3800, 8mm Tempered

Foaming interlayer

TPS Spacer



EI 60 / A1.00

EI60 Fireproof & Insulated 60mins

(The most popular high-end fire resistant glass)

Technical Data

Fire prevention shatterproof glass for the inside application

CLASSIFICATION

EI

A

TECHNICAL DATA

Fire opposition (BS EN1634-1:2008).....EI 60
 (GB15763.1-2009).....A 60

Allowed dimensions.....Vary according to glass construction, frame system, element type and land.
 The allowed mass of the national licensing are absolutely to be kept.

Thick tolerance.....+3/-2 mm

Length tolerance.....+2/-2 mm

Pendulum blow (EN 12600).....1(B)1

UV Solidly (EN ISO 12543-4 Pt.6).....In addition to Norm default: none bubble education or Discoloration
 after 2000 hours of radiotherapy.

Temperature area of application.....+45°C / -7°C

Dangerous contents materials.....None

Element thickness.....	26mm	28mm	34mm
Dimensions area single disc.....	≤1500mm x 3000mm	≤1800mm x 2600mm	≤2200mm x 3210mm
Weight.....	54 kg/m ²	60 kg/m ²	71kg/m ²
Sound absorption Rw (EN 140-3).....	N/A	N/A	N/A
Light transmission (EN 410).....	79%	81%	78%
Light reflection (external / internal).....	8%/8%	8%/8%	8%/8%
U-Value, W/m ² K (EN 673).....	4.7	4.3	4.1
g-Value.....	0.72	0.63	0.6
Energy transmission.....	55%	53%	48%
Energy reflection (external / internal).....	7%/7%	6%/6%	6%/6%

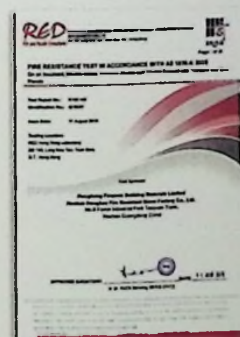
PRODUCT DATA

Tempered shatterproof glass

≤1500×3000, 5mm Tempered
 ≤1600×3600, 6mm Tempered
 ≤1800×4200, 8mm Tempered



TPS-Spacer



EI 90 / A1.50

EI 90 Fireproof & Insulated 90mins

Technical Data

Fire prevention shatterproof glass for the inside application

CLASSIFICATION



TECHNICAL DATA

Fire oppositionEI 90
(GB15763.1-2009).....A 90

Allowed dimensions.....Vary according to glass construction, frame system, element type and land.
The allowed mass of the national licensing are absolutely to be kept.

Thick tolerance.....+3/-2 mm

Length tolerance.....+2/-2 mm

Pendulum blow (EN 12600).....1(B)1

UV Solidly (EN ISO 12543-4 Pt.6).....In addition to Norm default: none bubble education or Discoloration after 2000 hours of radiotherapy.

Temperature area of application.....+45°C / -7°C

Dangerous contents materials.....None

Element thickness.....35mm 39mm

Dimensions area single disc..... $\leq 1400\text{mm} \times 2336\text{mm}$ $\leq 1500\text{mm} \times 2500\text{mm}$

Weight.....72 kg/m² 82kg/m²

Sound absorption Rw (EN 140-3).....45dB 45dB

Light transmission (EN 410).....80% 79%

Light reflection (external / internal).....9%/9% 8%/8%

U-Value, W/m ² K (EN 673).....	3.7	3.6
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q-Value.....0.62 0.61

Energy transmission.....	52%	50%
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Energy reflection		
(external /in ternal).....	7%/7%	6%/6%

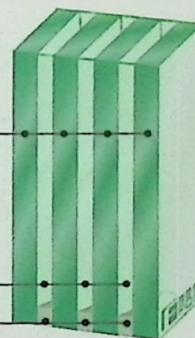
PRODUCT DATA

Tempered shatterproof glass

≤ 1400x2336, 5mm Tempered
≤ 1500x2500, 6mm Tempered

Foaming interlayer

TPS Spacer



EI 120 / A2.00

EI120 Fireproof & Insulated 120mins

Technical Data

Fire prevention shatterproof glass for the inside application

CLASSIFICATION

EI

A

TECHNICAL DATA

Fire opposition (BS EN1634-1:2008).....EI 120
 (GB15763.1-2009).....A 120

Allowed dimensions.....Vary according to glass construction, frame system, element type and land.
 The allowed mass of the national licensing are absolutely to be kept.

Thick tolerance.....+5/-2 mm

Length tolerance.....+2/-2 mm

Pendulum blow (EN 12600).....1(B)1

UV Solidly (EN ISO 12543-4 Pt.6).....In addition to Norm default: none bubble education or Discoloration
 after 2000 hours of radiotherapy.

Temperature area of application.....+45°C / -7°C

Dangerous contents materials.....None

Element thickness.....41mm

Dimensions area single disc.....≤1400mm x 2336mm

Weight.....82 kg/m²

Sound absorption Rw (EN 140-3).....N/A

Light transmission (EN 410).....72%

Light reflection (external / internal).....14%/14%

U-Value, W/m²K (EN 673).....2.2

g-Value.....0.51

Energy transmission.....37%

Energy reflection
 (external / internal).....9%/10%

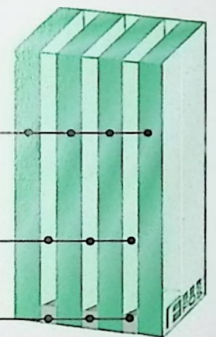
PRODUCT DATA

Tempered shatterproof glass

≤1400×2336, 5mm Tempered

Foaming interlayer

TPS-Spacer



EI 180 / A3.00

EI180 Fireproof & Insulated 180mins

Technical Data

Fire prevention shatterproof glass for the inside application

CLASSIFICATION



TECHNICAL DATA

Fire opposition (BS EN1364-1:1999).....EI 180
(GB15763.1-2009).....A 180

Allowed dimensions.....Vary according to glass construction, frame system, element type and land.
The allowed mass of the national licensing are absolutely to be kept.

Thick tolerance.....+5/-3 mm

Length tolerance.....+2/-2 mm

Pendulum blow (EN 12600).....1(B)1

UV Solidly (EN ISO 12543-4 Pt.6).....In addition to Norm default: none bubble education or Discoloration
after 2000 hours of radiotherapy.

Temperature area of application.....+45°C / -7°C

Dangerous contents materials.....None

Element thickness.....69mm

Dimensions area single disc.....≤900mm x 2290mm

Weight.....82 kg/m²

Sound absorption Rw (EN 140-3).....N/A

Light transmission (EN 410).....74%

Light reflection (external / internal).....13%/13%

U-Value, W/m²K (EN 673).....2.1

g-Value.....0.51

Energy transmission.....40%

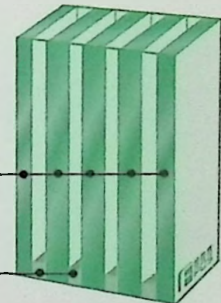
Energy reflection
(external / internal).....9%/10%

PRODUCT DATA

Tempered shatterproof glass

≤ 1500x3000, 5mm Tempered
≤ 1800x2600, 6mm Tempered
≤ 2200x3210, 8mm Tempered

TPS-Spacer
Foaming interlayer



EI 60 / A1.00

EI60 fire resistant glass for external application

(Fireproof, Explosion-proof, Typhoon-proof, Energy-saving, Noise reduction)

Technical Data

Fire prevention shatterproof glass for the inside application

PRODUCT DATA

CLASSIFICATION

EI **A**

TECHNICAL DATA

Fire opposition (BS EN 1364-1:1999).....EI 60

Allowed dimensions.....Vary according to glass construction, frame system, element type and land.
The allowed mass of the national licensing are absolutely to be kept.

Thick tolerance.....+5/-3 mm

Length tolerance.....+2/-2 mm

Pendulum blow (EN 12600).....1(B)1

UV Solidly (EN ISO 12543-4 Pt.6).....In addition to Norm default: none bubble education or Discoloration
after 2000 hours of radiotherapy.

Temperature area of application.....+45°C / -7°C

Dangerous contents materials.....None

Element thickness.....54.52mm

Dimensions area single disc.....

Weight.....93 kg/m²

Sound absorption Rw (EN 140-3).....N/A

Light transmission (EN 410).....72%

Light reflection (external / internal).....15%/15%

U-Value, W/m²K (EN 673).....2.1

g-Value.....0.49

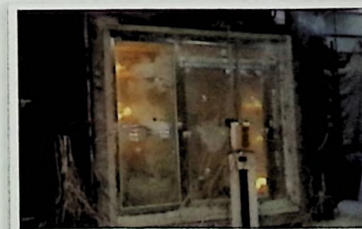
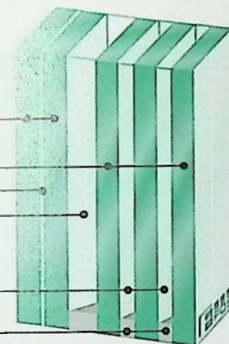
Energy transmission.....36%

Tempered shatterproof glass

≤1400×2336, 5mm Tempered
≤1500×2500, 6mm Tempered
PVB1.52
12A

Foaming interlayer

TPS-Spacer



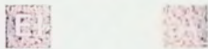
EI 60 / A1.00

Technical Data

EI 60 Fire Resistant Glass for load bearing Insulated Glazing Floor System or Skylight fireproof & Insulated 60mins

Fire prevention shatterproof glass for the inside application

CLASSIFICATION



TECHNICAL DATA

Fire opposition (BS EN 1364-2:2000).....EI 60

Allowed dimensions.....Vary according to glass construction, frame system, element type and land.
The allowed mass of the national licensing are absolutely to be kept.

Thick tolerance.....+3/-2 mm

Length tolerance.....+2/-2 mm

Pendulum blow (EN 12600).....1(B)1

UV Solidly (EN ISO 12543-4 Pt.6).....In addition to Norm default: none bubble education or Discoloration
after 2000 hours of radiotherapy.

Temperature area of application.....+45°C / -7°C

Dangerous contents materials.....None

Element thickness.....58mm

Dimensions area single disc.....≤1160mm x 1410mm

Weight.....99 kg/m²

Sound absorption Rw (EN 140-3).....N/A

Light transmission (EN 410).....72%

Light refle ction (external / internal).....15%/15%

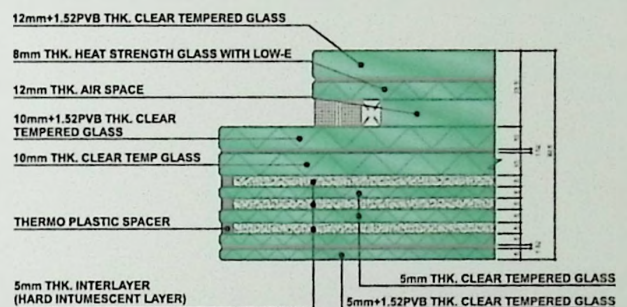
U-Value, W/m²K (EN 673).....2.1

g-Value.....0.49

Energy transmission.....36%

Energy reflection
(external /in ternal).....7%/7%

GLASS COMBINATION



Project Reference of FPOS

Overseas:

Haramain High-speed Rail Project
Project Airport Dubai
Project Co Seyman Geneva CH E30
AMKTC, Singapore
Chua Chu Kang Town Council, Singapore
CCTC, Singapore
Hillview Peak, Singapore
Christchurch Town Hall, New Zealand
100 Mount Street, North Sydney
Extension de la Centrale thermique de Jerada au Maroc (1X350MW)
JOB 615/16 ALEX SISTEMI

HongKong & Macau:

No.188, Ying Fu Street, Hongkong
Maritime Building, Hong Kong
Universal industrial centre, No.19-25, Hou Tan Shan Mei Street Sha Tin, Hong Kong
Disney Hotel, Hong Kong
Happy Valley Association Hing Street, Hong Kong
Project Wai Yip Street, Hong Kong
Jun Ying 2, No. 111, Shek Kok Road, Tseung Kwan, Hongkong
Xuan De road, half a mountain luxury, Hongkong
Proposed Composite Development at Tsung Kwan O Town Lot, Hong Kong
No.7 & 7G Victory Ave, Hong Kong
Proposed Development of No.25 Wong Nai Chung Road, Hong Kong
Tsing Lung Tau, Hong Kong
Alterations & Addition Works at Nan Fung Textile at Mill No.4 to No.6, Hong Kong
Foundation Academy at No.1 Kong Sin Wan Road, Pokfulam, Hong Kong
A & A Works at Theatre Block of the HKAPA, Hong Kong
No.133 Wai Yip Street, Hong Kong
KOB MTR Station, Hong Kong
K21 Hing Wah Street, Shum Shui Po, Hong Kong
17N Universal Industrial Centre, Hong Kong
Ho Man Tin, Hong Kong
New Method College, Hong Kong
MTR 711, Hong Kong
TKO 095 ALTO Residences, Hong Kong
Lee Theatre Plaza, Hong Kong
8 Hok yuen street, Kowloon Kowloon Inland Lot No. 11244, Hong Kong
Unit 802, 8/F, Gala Place, 56 Dundas Street, Mongkok, Kowloon, Hong Kong
Composite Public Rental Housing and Community Hall Development at Sau Ming Road
Ying Wa Girl's School Redevelopment Project 76 Robinson Road & Breezy Path (HKSAR)
Alterations & Additions Works At Nan Fung Textile, 23-39 Pak Tin Par Street, Tsuen Wan -T.W.T.L. 313 R.P.
Proposed Residential Development at No.1-11 Tang Fung Street, Ail 269-274 Aberdeen, Hong Kong
Louis XIII at Macau
Project Cotai Automobile Inspection Center, Macau

China Mainland:

Beijing Haidian District Yuyuantan commercial project
Beijing Hengda riverside project on the left bank
Lujiazui Tianjin Financial center CBD
Handan Global Center
Zhengzhou High-tech Park
Xi'an Metro Line 4
Jinan Vanke Center
Nanning-Qingdao Metro Line
Shanghai Shoal Center
Wuhan Optics Valley Star Center
Wuhan Dongxihu Sports Center
Shenzhen Vanke Yuncheng
Shenzhen Jinhui Garden
Shenzhen Peninsula City State
Shenzhen East County
Dongguan International Trade Center
Foshan Vanke Jinyu Riverside
Foshan Vanke Financial Center



German Technology and Material

FIREPROOF / INSULATION / STABLE « New



Testing of Fpos Fire Resistant Products in China (CCC Certification)

Serial number	Test type	Test standard	Glass thickness	Size(mm)
1	C1.00 Fire resistant glass (E 60)	GB 15763.1-2009	10mm	700X1200
2	C2.00 Fire resistant glass (E 120)	GB 15763.1-2009	21mm	1300X2600
3	A0.50 Fire resistant glass (EI 30)	GB 15763.1-2009	15mm	1300X2900
4	A1.00 Fire resistant glass (EI 60)	GB 15763.1-2009	25mm	1300X2900
5	A1.50 Fire resistant glass (EI 90)	GB 15763.1-2009	35mm	1300X2600
6	A2.00 Fire resistant glass (EI 120)	GB 15763.1-2009	41mm	1300X2400
7	A3.00 Fire resistant glass (EI 180)	GB 15763.1-2009	75mm	1100X2200
8	A1.00 fire rated glazing fixed windows (EI 60)	GB 16809-2008	25mm	2400X2400
9	A1.00 Fire rated glazing active windows (EI 60)	GB 16809-2008	25mm	800X2100
10	A1.50 fire rated glazing fixed windows (EI 90)	GB 16809-2008	35mm	3000X2000
11	A1.50 fire rated glazing fixed windows (EI 90)	GB 16809-2008	41mm	1500X3000
12	A2.00 fire rated glazing fixed windows (EI 120)	GB 16809-2008	75mm	1500X3000
13	A1.00 Non-loadbearing fire rated partition (EI 60)	GA 97-1995	25mm	3000X3000
14	A1.00 Non-loadbearing fire rated partition (EI 60)	GA 97-1995	28mm	3200X3700
15	A1.00 Non-loadbearing fire rated partition (EI 60)	GA 97-1995	34mm	3200X4300
16	A1.00 Double-leaves fire rated glazing door (EI 60)	GB 12955-2008	25mm	2100X3000
17	A1.50 Double-leaves fire rated glazing door (EI 90)	GB 12955-2008	35mm	1800X2600
18	A1.50 Double-leaves fire rated glazing door (EI 90)	GB 12955-2008	35mm	2200X3000

German Technology and Material

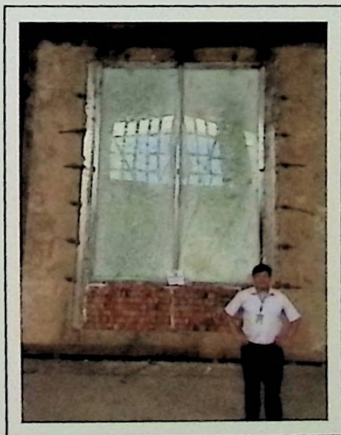
FIREPROOF / INSULATION / STABLE **《New》**



Extra-size glass layout
1500mm×4200mm



Extra-size fire rated glazing door
2100mm×3000mm test



CONTACT US

Ready to talk about our innovative product will support your next project? Get in touch with our dedicated, in- house experts who will provide a clear solution.

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RESISTANT GLASS FACTORY CO., LTD

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The 4th edition