



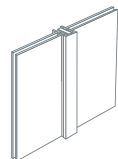
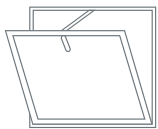
KFORTS Fire Rated System

Framed Fire Rated Glass Systems with TUV Certification



KFORTS

- KFORTS provides customized fire rated glass systems that comply with European standards. KFORTS is dedicated to researching globally advancing framed glass systems, offering fire rated glass, fire rated glass doors, fire rated glass partitions, and curtain wall systems. We also offer security glass systems that are resistant to burglaries, bullets, and explosions.
- KFORTS' fire rated glass systems have passed European standard and Singapore standard tests with TUV certification, providing a one-stop fire rated system solution to all customers' requirements. We own an independent R&D team, laboratories, and manufacturing facilities, focusing on the development of fire-resistant materials and systems.
- KFORTS has ISO9001 quality management system. KFORTS has overcome several challenges and always met the quality of standards and expectation of clients. We have expanded our projects to different regions, including Europe, Asia, Australia and Africa etc.



HWARRIOR PTE LTD

Address: #08-01 101 Eunos Ave 3 S409835

Mobile/WhatsApp : +65 8718 7444

Email: req@kingforts.com

Web site: <http://www.kingforts.com>



KFORTS Fire Rated Glass Systems

1. Introduction

Kforts Systems comply with European standards (EN1364-3) and Singapore standards (SS332:2018+A1:2022), meeting local requirements and regulations. The fire rated door systems and fire rated partition systems are suitable for a wide range of fire-protection ratings.

2. Standards List

- I. SS332:2018+A1:2022
- II. EN1364-3
- III. EN12600



3. Product Range

- I. Fire Rated Glass Door Systems: fire resistance for 1 hour and 2 hours.
- II. Fire Rated Glass Partition Systems: fire resistance for 1 hour and 2 hours.
- III. Fire Rated Glass Door&Partition Systems: fire resistance for 1 hour and 2 hours.

4. Fire Resistance Performance of Products

I. Glass

Standard		Types	Ei60	Ei120
European Standard (Note1)	EN 357:2004 Glass in building—Fire resistant glazed elements with transparent or translucent glass products —Classification of fire resistance.		Integrity and insulation meet the standard for 60 minutes.	Integrity and insulation meet the standard for 120 minutes.

Note 1: European standards do not conduct independent tests on fire-resistant glass, and only conduct tests on systems that contain fire-resistant glass.

II. Fire Rated Glass Door Systems

Standard		Types	Ei60-D1/D2	Ei120-D2
Singapore Standard	SS332:2018+A1:2022 Specifications for Fire Doors		Integrity and insulation meet the standard for 60 minutes.	Integrity and insulation meet the standard for 120 minutes.

III. Fire Rated Glass Partition Systems

Standard		Types	Ei60-D1/D2	Ei120-D2
European Standard	EN1364-3 Fire resistance tests for non-loadbearing elements -- Part 3: Curtain Walling —Full configuration (complete assembly)		Integrity and insulation meet the standard for 60 minutes.	Integrity and insulation meet the standard for 120 minutes.

IV. Fire Rated Glass Door&Partition Systems

Standard		Types	Ei60-D1/D2	Ei120-D2
European and Singapore Standards	SS332:2018+A1:2022 for Doors and EN1364-3 for Partitions		Integrity and insulation meet the standard for 60 minutes.	Integrity and insulation meet the standard for 120 minutes.



5. Types of Doors

Rating	System	Glass Thickness (mm)	Size(Per Panel) (W*H)	Frame Size (T*W)	Remarks
1 Hour	Ei60-D1	25	1320*2959	78*100	Full Insulated Glass
1 Hour	Ei60-D2	25	1328*2972	78*75	Full Insulated Glass
2 Hour	Ei120-D1	45	1065*2680	105*85	Full Insulated Glass

6. Types of Partitions

Rating	System	Glass Thickness (mm)	Size(Per Panel) (W*H)	Frame Size (T*W)	Remarks
1 Hour	Ei60-W1	25	1928*3450	78*75	Full Insulated Glass
2 Hour	Ei120-W1	45	1678*3000	105*85	Full Insulated Glass

7. Glass

Glass used in KFORTS systems is made of multilayers of toughened glass and the special nc-Si fire-resistant materials. Kforts glass, which is shatter proof and against impact or cutting injuries, has passed EN12600 impact test. The optical clarity of our glass is equivalent to that of clear float glass.

8. Frame

The Frame consists of a structural steel-aluminum core clad with fire rated and insulated panels. All the framing systems have been tested and passed the requirement stipulated under the by-laws and regulations.

9. Finishes

The glass can be ceramic, reflected, sandblasted, carved or etched.

The frame can be clad with aluminum in coating, timber veneer, stainless steel or others.

10. By Laws and Regulations

I. Fire safety

- i. Singapore Standard SS332:2018 for fire resistant doors.
- ii. European Standard EN1364-3 for fire resistant partitions.
- iii. TUV certification and listing.

II. Mechanical Test

The Classification 1(B)1 of EN12600 Impact Test.

11. Consultancy

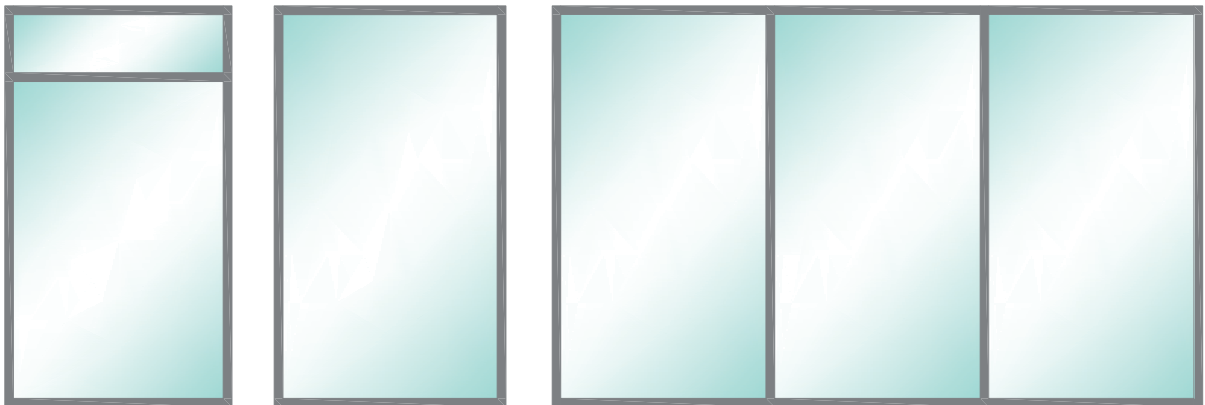
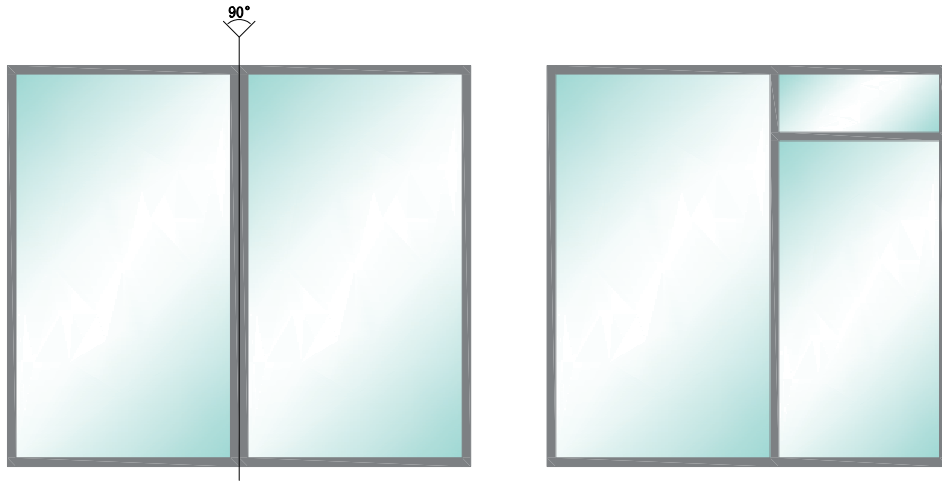
We will offer the following advice and consultation:

- I. Product Qualification Certificate.
- II. Fire Resistance Test Report.
- III. Product Labeling.
- IV. COC Certification.



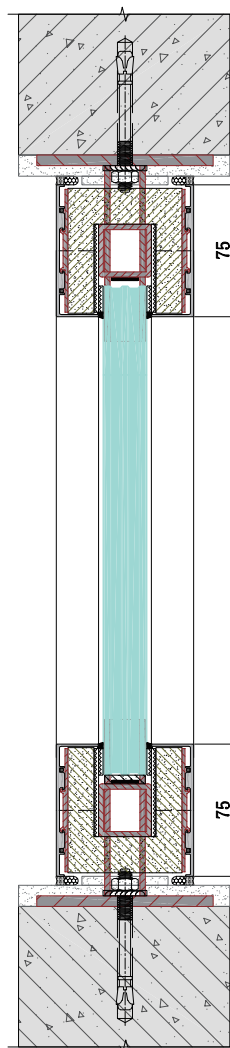
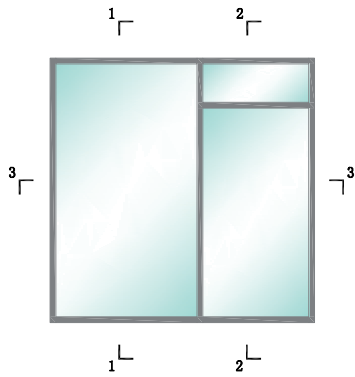
12. Design and Sections

I. Design Examples of Fire Rated Glass Partition Systems

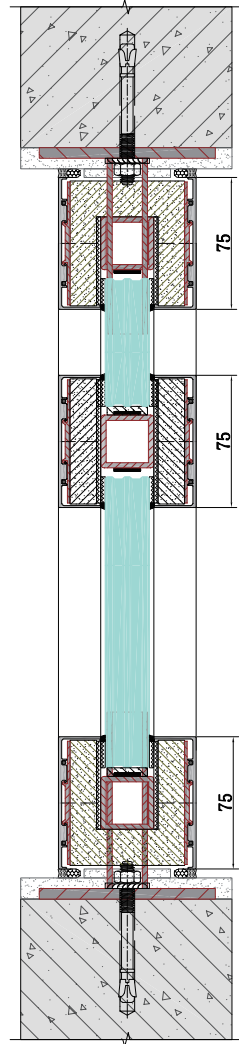


II. Sections of Fire Rated Glass Partition Systems

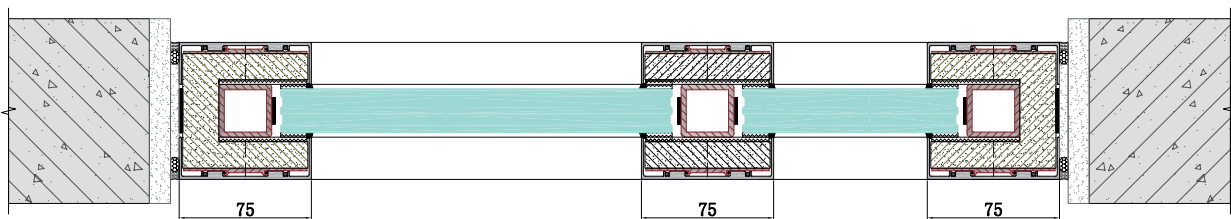
i. Ei60-W1 (1 hour)



1-1



2-2

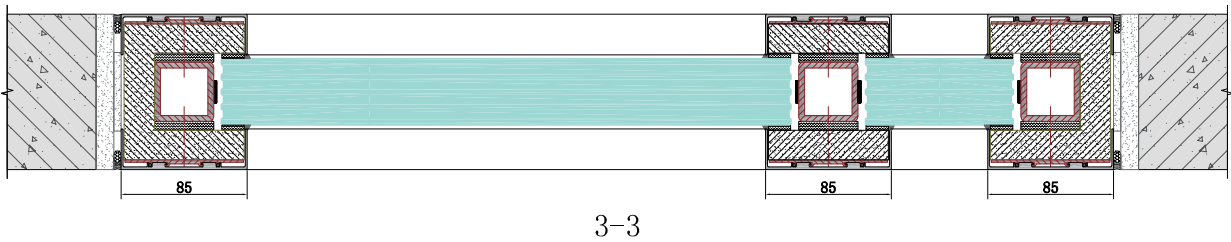
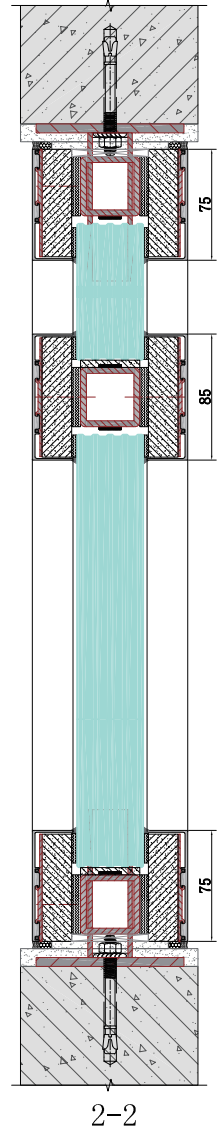
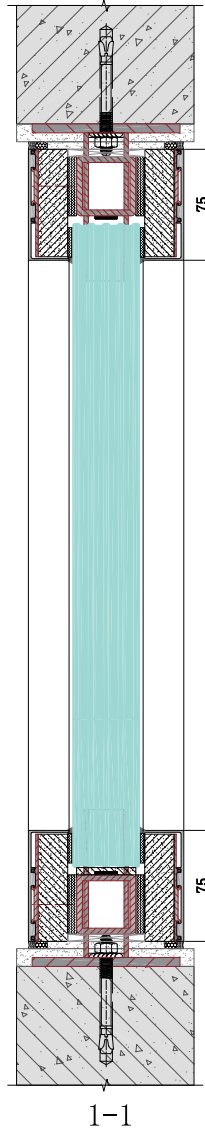
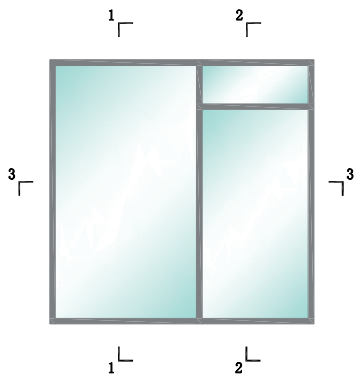


3-3



II. Sections of Fire Rated Glass Partition Systems

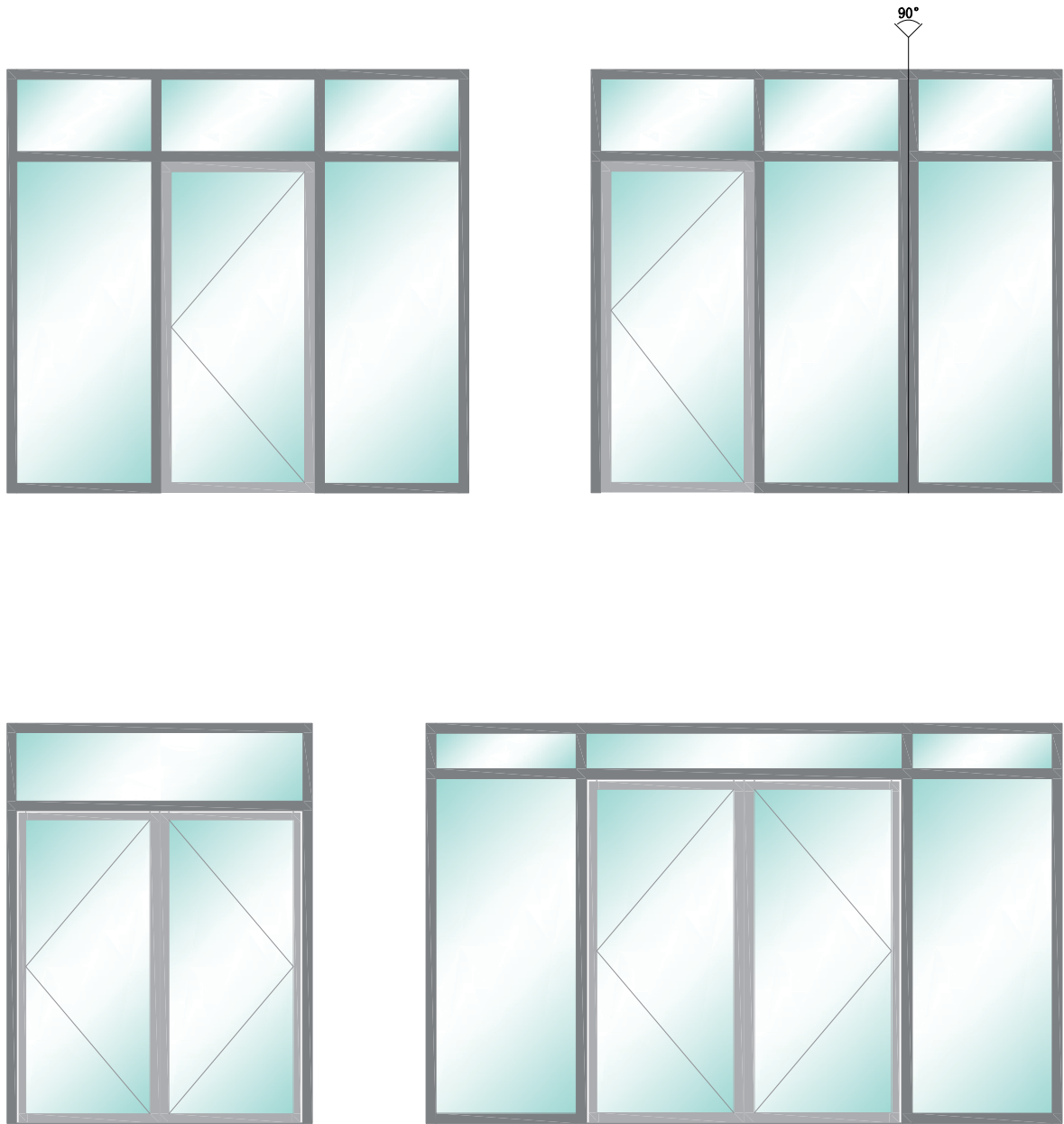
ii. Ei120-W1 (2 hours)





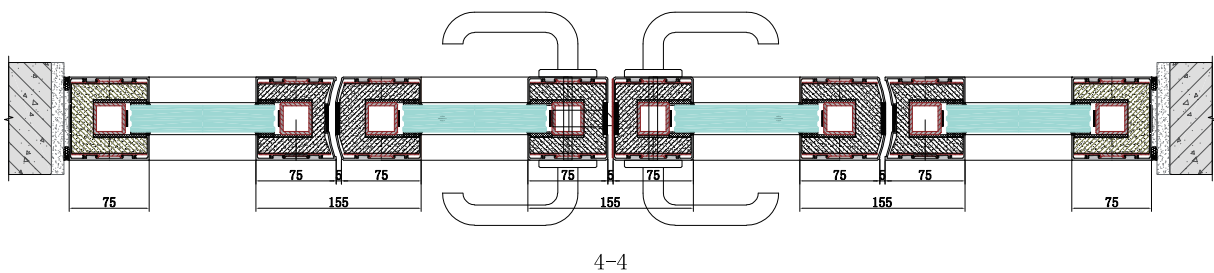
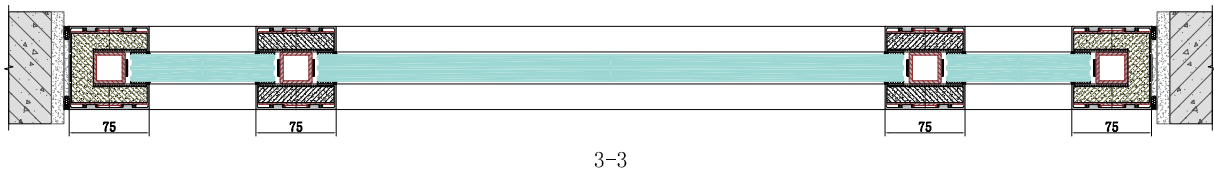
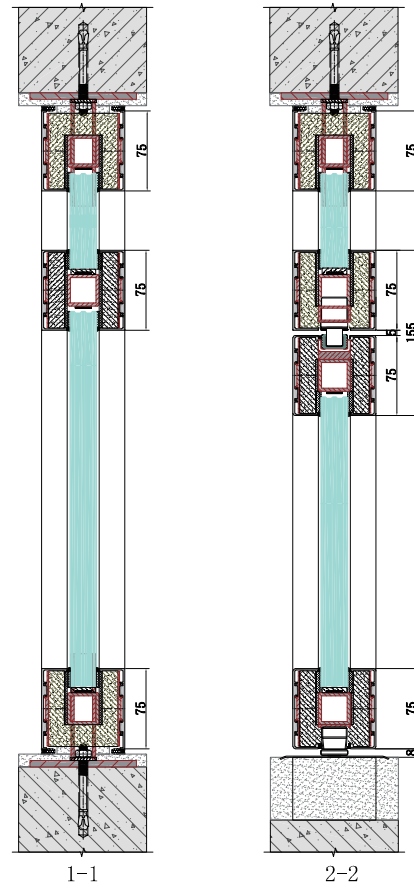
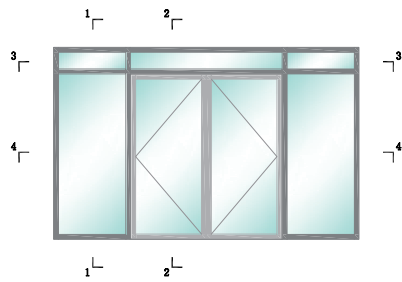


III. Design Examples of Fire Rated Glass Door&Partition Systems



IV. Sections of Fire Rated Glass Door&Partition Systems

i. Ei60-D2/Ei60-W1 (1 hour)



IV. Sections of Fire Rated Glass Door&Partition Systems

ii. Ei120-D1/Ei120-W1 (2 hours)

