

Zamil
Architectural



ZAMIL SAFETY SECURITY SYSTEM

At Zamil all lives are valuable

All lives are valuable

At Zamil Architectural, the protection of human lives in all of our activities are highly important. With this in mind, Zamil has embarked on providing the state of the art solutions in safety and security application to the market.

**Bringing the
Finest ,
Safety & Security
Fenestration
Solutions
to Middle East &
North Africa**

With Zamil Architectural, you are assured of 3rd party tested and certified products meeting the various industry codes.

Our products are proudly made in the Kingdom of Saudi Arabia in steel, stainless steel, and aluminium, suitable for the whole of Middle East and North Africa region.



What is Fire and Smoke Protection?

05

07

Technical requirements as to fire resisting applications in buildings

Legislation in Fire Rated Applications

09

11

Civil Defense Approval Certificates

11

Fire Ratings Classifications in Accordance to the EU Standards and US Fire Codes

Fire Rating Classifications Explained

13

20

18

EN Certificate of Compliance for Fire Rated Curtain Wall, Glazed Assemblies & Doors Sets

UL Certificate of Compliance for Fire Door , Fire Window Frames & Swing Doors

22

24

26

28

30

Fire Rated Steel and Stainless Steel System

Fire Rated Aluminium System

32

40

38

36

34

Bullet Resistant

Burglar Resistant and Blast Resistant

41

CONTENTS





What is Fire and Smoke Protection?

Building codes rely on fire and smoke protection to safeguard the public from fire and other hazards attributed to the built environment and to provide safety to fire fighters and emergency responders during emergency operations. One aspect of this protection is based on limiting the movement of fire, along with the associated smoke and toxic gases, by using a compartmentation approach. This is achieved through fire rated walls, fire barriers, fire partitions, smoke barriers, shaft enclosures and horizontal assemblies to limit the spread of fire. This passive protection is an integral part of the overall safety scheme included in the codes.

An important aspect of limiting the spread of fire, smoke and toxic gases is protecting openings in fire and smoke rated assemblies that are provided to allow the building to be functional. Opening protective products are offered by Zamil Architectural to protect these openings. These include fire doors and frames, fire windows and frames, and fire curtain wall assemblies

05



Stainless Steel Fire Rated Door



Technical requirement to fire-resisting applications in buildings

In accordance with the requirements of the building regulations to buildings and their location, fire-resisting door and windows that are to be installed in the openings of vertical separating elements in such a way, that in case of fire:

- prevent fire from spreading
- limit the spread of fire and smoke in the building to other rooms and zones,
- limit the spread of fire to other buildings,
- allow the evacuation of building occupants by limiting the level of heat radiation,
- ensure safety and facilitate the operation of emergency crews



Did you know?

Fire Rated Frames
Fire Rated Glass
Fire Rated Glazing Materials
Fire Rated Hardware

All work together and MUST be certified together!

Fire Rated Curtain Wall

07



Fire Rated Customized Hinged Door

Building Components must pass stringent testing requirements, comply with local building codes and the authorities having jurisdiction:

- EN Standard - EN 1634-1 Fire resistance tests for doors and shutter assemblies, EU.

Legislations for Fire Rated Applications

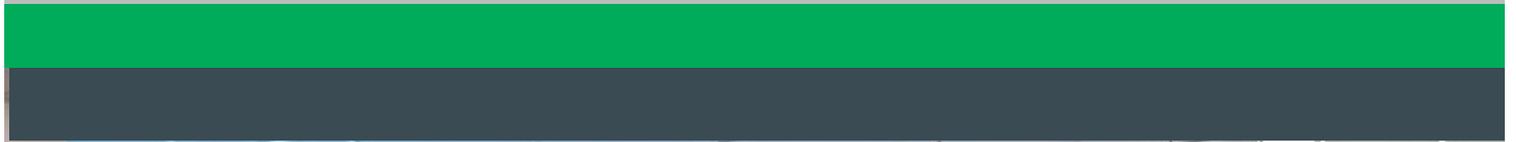


Automatic Fire Rated Hinged Door

Fire Rated Unequal Leaf Door

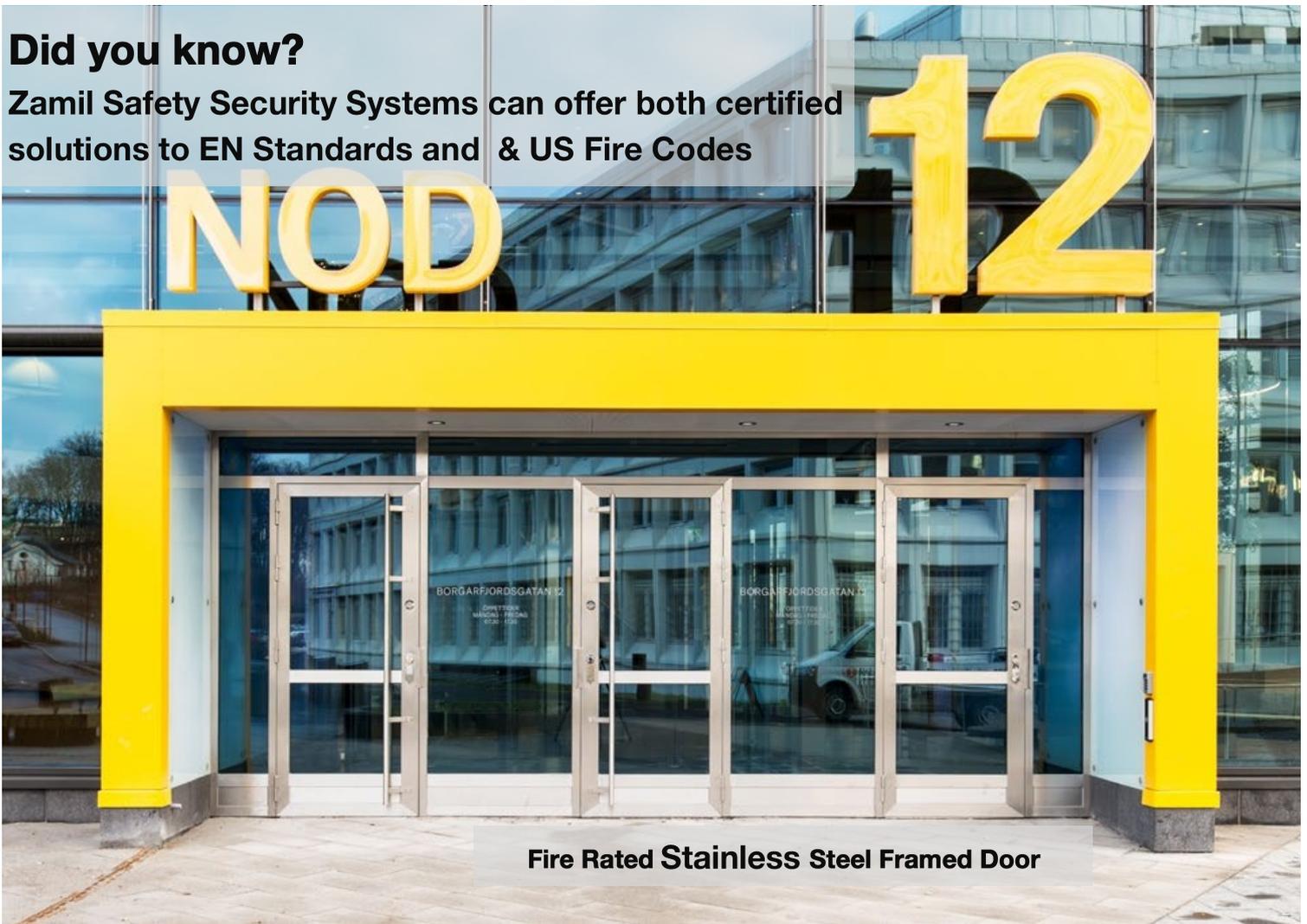
- **US Fire Codes**

- ASTM 119 Standard Test Methods for Fire Tests of Buildings Construction and Materials.
- NFPA 251 Standard Methods of Tests of Fire Resistance of Building Construction and Materials.
- NFPA 257 Standard on Fire Test for Windows and Glass Block Assemblies
- NFPA 252 Standard Method of Fire Test of Door Assemblies
- UL 10B Fire Test of Door Assemblies
- UL 10C Standard for Positive Pressure Fire Tests of Door Assemblies



Did you know?

Zamil Safety Security Systems can offer both certified solutions to EN Standards and & US Fire Codes



Fire Rated Stainless Steel Framed Door

Fire Ratings Classification in Accordance to the EU and US Norm

EN
European Standard



Ratings in the EU

E - Integrity
EW - Radiation Limit
EI - Insulation



DURATION

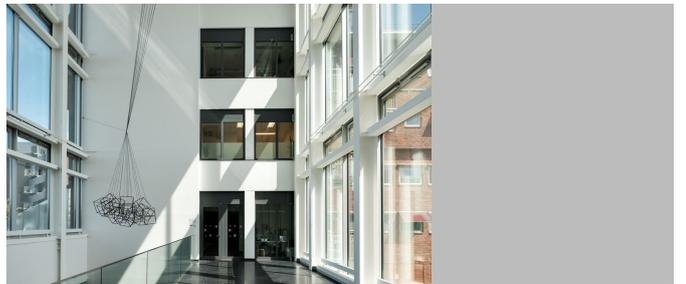
From 30 min up to 90 min (doors)
From 30 min up to 120 min (walls)

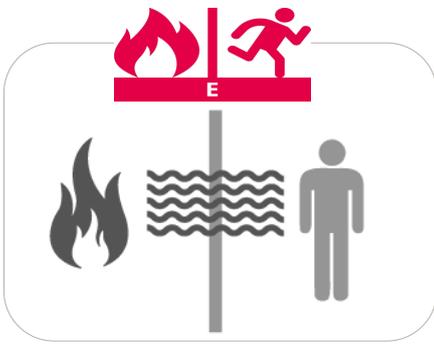
Ratings in the US

Protective - Integrity
Resistive - Insulation

DURATION

From 1/3 hr. up to 3/4 hr. (protective)
From 1 hr to 1 1/2 hrs doors (resistive)
From 1 hr. to 3 hrs. wall (resistive).



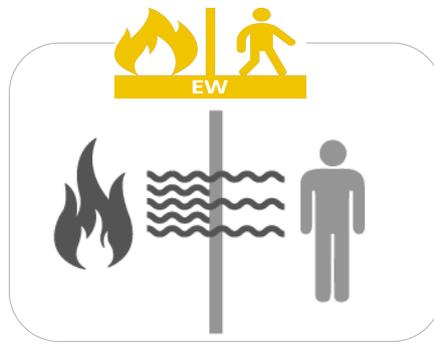


E - Integrity Only
Products to block smoke, flames & toxic gas.

|| **EURO**

Fire protective
Fire protective means the glazing defends against the spread of flames and smoke for its designated fire rating.

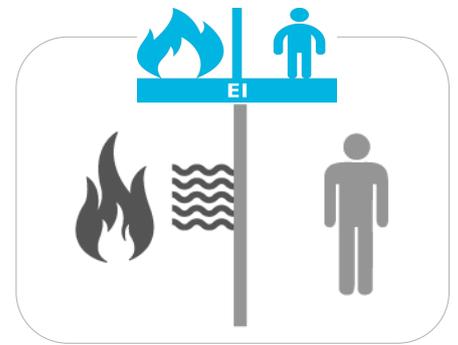
USA



EW - Integrity + Radiation Limit
Products to reduce radiant heat transfer (limit 15 KW/m² at 1m distance)

|| **EURO**

Not Available **USA**



EI - Integrity + Insulation
Products providing a barrier to radiant and conducted heat transfer (≤ 140 °C)

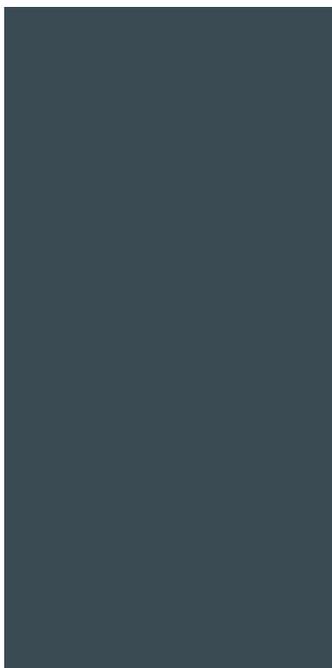
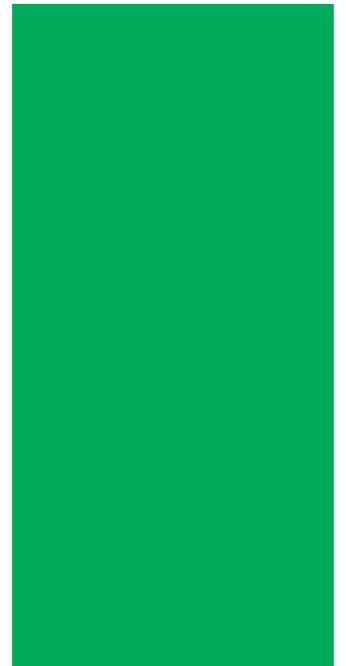
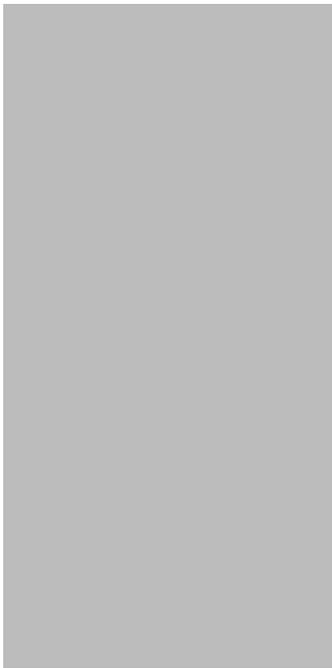
|| **EURO**

Fire resistive
Fire resistive glass provides the same defense against flames and smoke as fire-protective glazing but adds further protection by blocking the transfer of radiant and conductive heat.

USA

Fire Rating Classifications Explained

Fire Rated Automatic Sliding Door



Saudi Civil Defense - Approval Certificate for Fire Rated Glass Doors

المملكة العربية السعودية
وزارة الداخلية
المديرية العامة للدفاع المدني
شؤون السلامة
الإدارة العامة للأمن والترخيص

شهادة منتج

صاحبة لمدة عامين من تاريخه

رقم الصادر: ٧٤٩٦٠
تاريخ الصادر: ١٤٤١/٠٦/٢٢
مطلوبات

إسم الشركة/ المؤسسة: شركة الزامل للصناعات المعمارية
إسم المنتج: أبواب مقاومة للحريق
وصفه: أبواب زجاجية بالكامل مقاومة للحريق (أحادية - ثنائية)
بلد الصنع: المملكة العربية السعودية
المواصفة القياسية/التقارير: EN 1634-1, WHI18-32445422

وفقاً للمواصفات القياسية/التقارير الموضوعات أعلاه، وبناء على خطاب الهيئة السعودية للمواصفات والمقاييس والجودة رقم ١٤٢١/ع وتاريخ ١٤٤١/٢/١٥ هـ فإن الدفاع المدني لا يمانع من استخدام هذا المنتج المسجل لدى مختبر (intertek) ويحمل علامته، وفقاً لتعليمات الجهة الصانعة، وفي الغرض المصنغ لأجله، داخل المملكة ولمدة عامين من تاريخه.

الشروط الواردة في الخلف جزء لا يتجزأ من هذه الموافقة.

مدير الإدارة العامة للأمن والترخيص
عقيد /
سعيد بن ظافر القرني

مساعدة مدير عام الدفاع المدني
لشؤون السلامة
خالد بن عبد الكريم العوده
لواء /

أي كشط أو تعديل يلغي هذه الموافقة.



Saudi Civil Defense - Approval Certificate for Fire Rated Glass Partition

المملكة العربية السعودية
وزارة الداخلية
المديرية العامة للدفاع المدني
شؤون السلامة
الإدارة العامة للأظمة والتراخيص

شهادة منتج

صالحة لمدة عامين من تاريخه

رقم تاسم: ٧٤٤٤
تاريخ الصانع: ١٤٤١/٠٢/٢٢
المشروع:

بلد الصنع: المملكة العربية السعودية

إسم الشركة/ المؤسسة: شركة الزامل للصناعات المعمارية
إسم المنتج: حواجز مقاومة للحريق
وصفه: حواجز ثابتة زجاجية بالكامل
مقاومة للحريق

المواصفة القياسية/التقارير: WHI18-32445421, EN 1364-1

وفقاً للمواصفات القياسية/التقارير الموضحة أعلاه، وبناء على خطاب الهيئة السعودية للمواصفات والمقاييس والجودة رقم ١٤٢١/ع وتاريخ ١٤٤١/٢/١٥ هـ فإن الدفاع المدني لا يمانع من استخدام هذا المنتج المسجل لدى مختبر (Intertek) ويحمل علامته، وفقاً لتعليمات الجهة الصانعة، وفي الغرض المصنغ لأجله، داخل المملكة ولمدة عامين من تاريخه.

الشروط الواردة في الخلف جزء لا يتجزأ من هذه الموافقة.

مدير الإدارة العامة للأظمة والتراخيص
عقيد /
سعيد بن ظافر القرني

مساعد مدير الدفاع المدني
لشؤون السلامة
لواء /
خالد بن عبد الكريم العوده

أي كشط أو تعديل يلغي هذه الموافقة.



Bahrain Civil Defense - Approval Certificate for Fire Rated Glass Door & Partition

Kingdom of Bahrain
Ministry of Interior



مملكة البحرين
وزارة الداخلية

الإدارة العامة للدفاع المدني - إدارة الحماية والسلامة

General Directorate of Civil Defence - Protection & Safety Directorate

رخصة بيع واستيراد أنظمة الوقاية من الحريق

Import/Export Fire Protection Systems Permit

تم إصدار الترخيص استناداً إلى القرار الوزاري رقم (99) لسنة (2016) بشأن شروط الحصول على تراخيص التي تصدرها الإدارة العامة للدفاع المدني

The permit was issued based on Ministerial Decree No. (99) for the year 2016 on the permit compliance issued by the General Directorate of Civil Defence

| | | | | | | | | |
|--------------------------|---------------------------------|-------------------|------------|---------------|------------|---------------|---------------|---------------------|
| CR. No. | 2-50357 | رقم السجل التجاري | 2020/11/11 | تاريخ الإتهام | 2019/11/11 | تاريخ الإصدار | 0187/2019 | رقم الرخصة |
| Company Name | (AL ZAMIL GROUP B.S.C. (CLOSED) | | | | | | | |
| Owner Name | ZAMIL ABDULLAH HAMAD ALZAMIL | | | | | | | |
| No. of Permitted Systems | 23 | | | | | | | |
| Address | P.O.Box | ص.ب | 343 | Block No. | 205 | منفى Building | Flat/shop No. | عدد الأنظمة المرخصة |
| | Area | MAHOZ | 4304 | Road | 205 | منفى Building | 0 | العنوان |

Activities

Import/Trade Fire Rated Doors

بيع واستيراد الأبواب المقاومة للحريق

مدير إدارة الحماية والسلامة
Director of Protection & Safety Directorate



www.gdcd.gov.bh: صفحة الإنترنت، 17242075: فاكس، 17239300، 17239342: هاتف

Ministry of the Interior, P. O. Box:13, Kingdom of Bahrain, Tel.:17239300, Fax:17242075, Website:www.gdcd.gov.bh

PSD-HP-D/04/V01 -

CAS/31719/6632/4797

17

EN - Certificate of Compliance For Curtain Wall and Glazed Assemblies

intertek
Total Quality. Assured.



Certificate of Compliance



You have been awarded:

Intertek Warnock Hersey Mark for Curtain Wall and Glazed Assemblies

Standards: EN 1364-1 (2015)

Certificate number: WHI18 – 32445421

Organization:

Zamil Architectural Industries

P.O. Box 1633

First Industrial City, Dammam 31441

Kingdom of Saudi Arabia

This is a certificate of compliance to certify that the bearer has successfully completed the requirements of the above scheme which include the testing of products, the initial assessment, and are subject to continuing annual assessments of their compliance and testing of samples of products taken from production (as applicable to the scheme) and has been registered within the scheme for the products detailed.

Product: Zamil Architectural Industries - Fully Glazed Fixed Partition (SP35000) - EN 1364-1

The Fully Glazed Fixed Partition has been evaluated according to EN 1364-1: 2015 and qualifies for the following ratings:

| | |
|--------------------|-------------|
| Integrity (E) | 120 Minutes |
| Heat Radiation (W) | 120 Minutes |

For details related to maximum dimensions and allowable configurations, see Appendix A (page 2 of 2 of this certificate)

For full details of the certified product please refer to Report G921773 & Spec ID 46487

Certification body: Intertek Testing Services NA, Inc.

Initial registration: December 05, 2018

Date of expiry: December 31, 2019

Issue status: 1

Charles Meyers
Certification Manager
Name


Signature

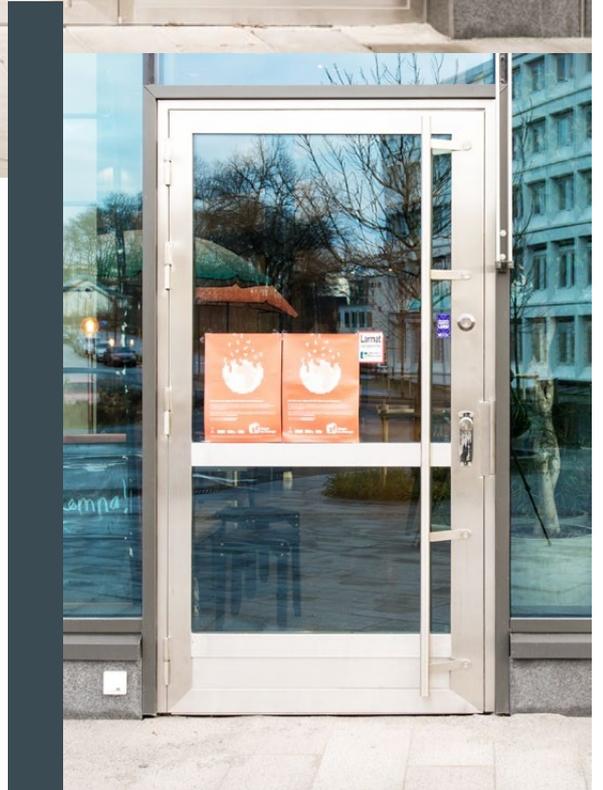
05 Dec 2018
Date

www.intertek.com

Registered address:
Intertek Testing Services NA, Inc. 545 E. Algonquin Rd., Arlington Heights, IL 60005 USA

The certificate and schedule are held in force by regular annual surveillance visits by Intertek Testing Services NA, Inc. and the reader or user should contact Intertek to validate its status. This certificate remains the property of Intertek Testing Services NA, Inc. and must be returned to them on demand. This Certificate is for the exclusive use of Intertek's Client and is provided pursuant to the Certification 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 certificate. Only the Client is authorized to permit copying or distribution of this certificate and then only in its entirety. Use of Intertek's Certification mark is restricted to the conditions laid out in the agreement. Any further use of the Intertek name for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. Initial Factory Assessments and Follow up Services are for the purpose of assuring appropriate usage of the Certification mark in accordance with the agreement, they are not for the purposes of production quality control and do not relieve the Client of their obligations in this respect.

Page 1 of 2



EN - Certificate of Compliance For Fire Resistant Doors and Door Sets



Certificate of Compliance



You have been awarded:

Intertek Warnock Hersey Mark for fire resistant doors and door sets

Standards: EN 1634-1 (2014)

Certificate number: WHI18 – 32445422

Organization:

Zamil Architectural Industries

P.O. Box 1633

First Industrial City, Dammam 31441

Kingdom of Saudi Arabia

This is a certificate of compliance to certify that the bearer has successfully completed the requirements of the above scheme which include the testing of products, the initial assessment, and are subject to continuing annual assessments of their compliance and testing of samples of products taken from production (as applicable to the scheme) and has been registered within the scheme for the products detailed.

Product: Zamil Architectural Industries - Fully Glazed Door Assembly (SP35000) - EN 1634-1

The Fully Glazed Door Assemblies have been evaluated according to EN 1634-1:2014 and qualify for the following ratings:

| Criteria | Single Door Assembly | Double Door Assembly |
|--------------------|----------------------|----------------------|
| Integrity (E) | 120 Minutes | 90* Minutes |
| Heat Radiation (W) | 120 Minutes | 90* Minutes |

*The double door assembly is allowed for an Integrity (E) and Radiation Control (W) = 120 minutes fire rating in applications for unidirectional fire protection where the door closer is installed on the fire side.

For details related to maximum dimensions and allowable configurations, see Appendix A (page 2 of 3 & 3 of 3 of this certificate)

For full details of the certified product please refer to Report G921773 & Spec ID 46489

Certification body: Intertek Testing Services NA, Inc.

Initial registration: December 05, 2018

Date of expiry: December 31, 2019

Issue status: 1

Charles Meyers
Certification Manager
Name

Signature

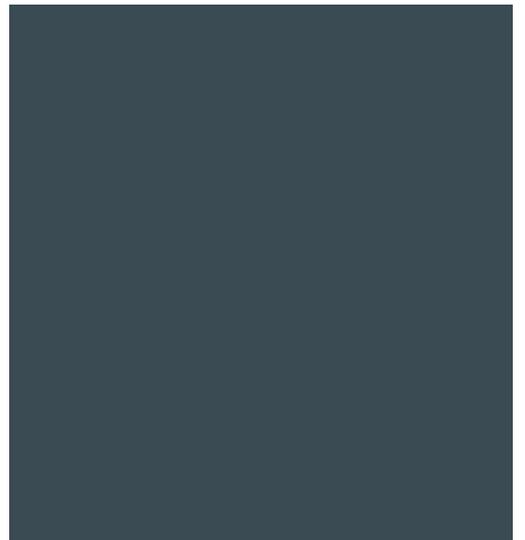
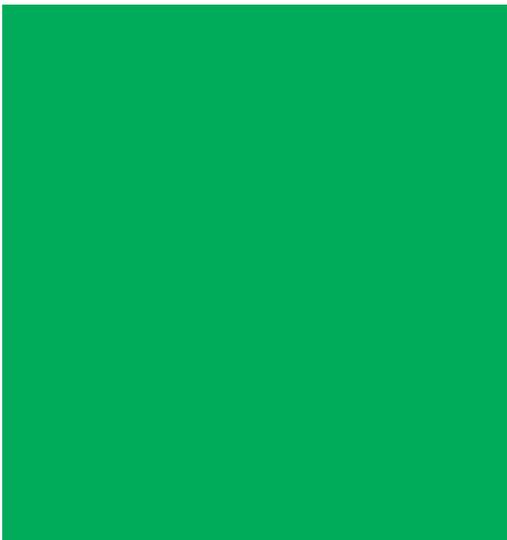
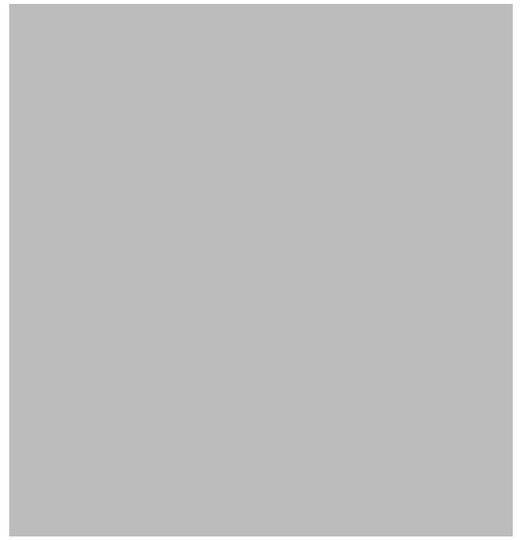
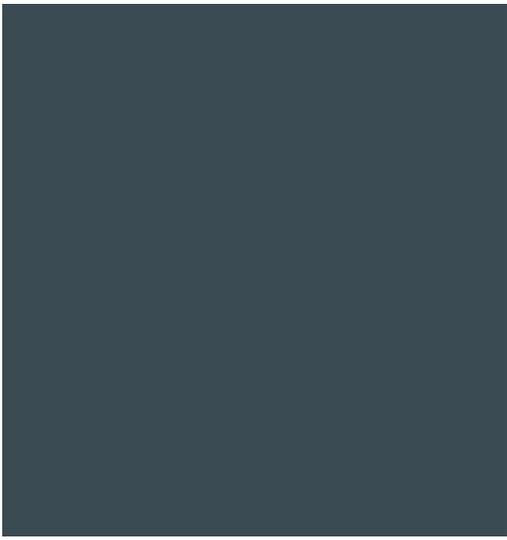
05 Dec 2018
Date

www.intertek.com

Registered address:
Intertek Testing Services NA, Inc. 545 E. Algonquin Rd., Arlington Heights, IL 60005 USA

The certificate and schedule are held in force by regular annual surveillance visits by Intertek Testing Services NA, Inc. and the reader or user should contact Intertek to validate its status. This certificate remains the property of Intertek Testing Services NA, Inc. and must be returned to them on demand. This Certificate is for the exclusive use of Intertek's Client and is provided pursuant to the Certification 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 certificate. Only the Client is authorized to permit copying or distribution of this certificate and then only in its entirety. Use of Intertek's Certification mark is restricted to the conditions laid out in the agreement. Any further use of the Intertek name for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. Initial Factory Assessments and Follow up Services are for the purpose of assuring appropriate usage of the Certification mark in accordance with the agreement, they are not for the purposes of production quality control and do not relieve the Client of their obligations in this respect.

20



UL - Certificate of Compliance For Fire Door and Fire Window Frames

CERTIFICATE OF COMPLIANCE

Certificate Number 20190227-R39823
Report Reference E38454-20100124
Issue Date 2019-February-27

Issued to: Zamil Architectural
P.O. Box 1633
Dammam 31441 SAUDI ARABIA

**This certificate confirms that
representative samples of**

FIRE DOOR AND FIRE WINDOW FRAMES
Type VDS SP35000 hollow metal tube type construction,
fire door frames of the single swing door, with or without
transom light or sidelight type rated up to and including 1-
1/2 h when glazed with 5 mm (3/16 in.) thick Vetrotech
Keralite FR-R glazing material. Assemblies may be installed
into drywall and masonry type wall construction openings.

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 10B - Fire Tests of Door Assemblies
UL 10C - Positive Pressure Fire Tests of Door Assemblies

Additional Information: See the UL Online Certifications Directory at
<https://iq.ulprospector.com> for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/about/locations/>





Fire Rated Automatic Sliding Door

UL - Certificate of Compliance For Fire Door and Fire Window Frames

CERTIFICATE OF COMPLIANCE

Certificate Number 20190227-R39823
Report Reference E38454-20031120
Issue Date 2019-February-27

Issued to: Zamil Architectural
P.O. Box 1633
Dammam 31441 SAUDI ARABIA

**This certificate confirms that
representative samples of**

FIRE DOOR AND FIRE WINDOW FRAMES
VDS steel fire window frame assemblies rated up to and including 1-1/2 h when glazed with 1-1/8 in. thick Vetrotech Swissflam 120 laminated glazing material. Assemblies may be installed into either gypsum wallboard or masonry construction.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 10B - Fire Tests of Door Assemblies
UL 10C - Positive Pressure Fire Tests of Door Assemblies

Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/about/locations/>





UL - Certificate of Compliance For Fire Door and Fire Window Frames

CERTIFICATE OF COMPLIANCE

Certificate Number 20190227-R39823
Report Reference E38454-20070313
Issue Date 2019-February-27

Issued to: Zamil Architectural
P.O. Box 1633
Dammam 31441 SAUDI ARABIA

**This certificate confirms that
representative samples of**

FIRE DOOR AND FIRE WINDOW FRAMES

Fire door frame assemblies with or without side lights and transoms rated up to and including 1-1/2 h when glazed with 28.6 mm (1-1/8 in.) thick Vetrotech Swissflam 90 or Contraflam 90-N2 laminated glazing material. Assemblies may be installed into masonry construction and non-masonry construction.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 10B - Fire Tests of Door Assemblies
UL 10C - Positive Pressure Fire Tests of Door Assemblies

Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/certifications>





UL - Certificate of Compliance For Swinging Type Fire Doors

CERTIFICATE OF COMPLIANCE

Certificate Number 20190225-R39824
Report Reference R38455-20100124
Issue Date 2019-FEBRUARY-25

Issued to: Zamil Architectural
P.O. Box 1633
Dammam 31441 SAUDI ARABIA

**This certificate confirms that
representative samples of**

SWINGING-TYPE FIRE DOORS

Type VDS SP35000 hollow metal tube type construction, swinging-type, single and standard pair type fire doors rated up to and including 1-1/2 h when glazed with 5 mm (3/16 in.) thick Vetrotech Keralite FR-R glazing material. Assemblies may be installed into lined drywall and masonry type wall construction openings.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: CAN4-S106-M80, Standard Method for Fire Tests of Door Assemblies

Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

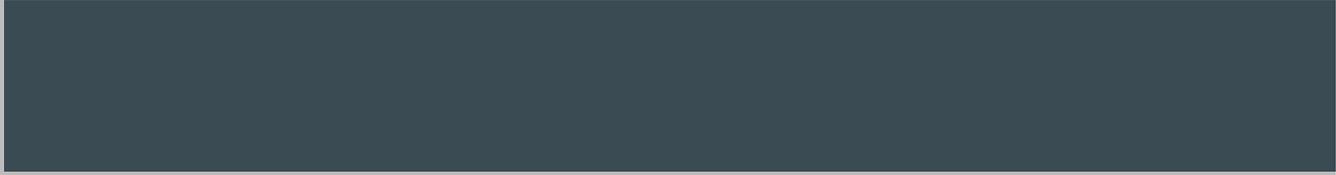
Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>





Fire Rated Steel & Stainless Steel System

Zamil Safety Security System provides insulated and non-insulated profile systems in steel and stainless steel for glazed facades, walls (partitions), windows, doors and sliding door sections.

E, EW and EI Classifications

From 30 min up to 90 min (doors)

From 30 min up to 120 min (walls)

Fire Protective and Fire Resistive Classifications

From 1/3 hr. up to 3/4 hr. (protective)

From 1 hr. to 3 hrs. (resistive).

Available Finishes

Steel Frame

Standard Powder Coated Finish (PE-F)

Super Durable Coated Finish (SD-F)

2 Coats Epoxy Finish

Stainless Steel Frame

Mirror Finish

Satin Finish

Natural Finish

35000 Series

SP 35000 • SP 55000 • SP 75000

Profile system without insulation for interior glazed doors, sliding doors, partition walls and window sections.

56500 Series

SP 56500 • SP 57000 • SP 58000 • SP 59000

Profile system with a thermal bridge for doors- and entrance sections, exhibition window partitions and curtain walling.

76500 Series

SP 76500 • SP 77000 • SP 79000 • SP 79000/750/15 • SP 711000

Fire insulated profile system with a core of fire resistant insulation for glazed doors, sliding doors, partition walls and window sections.

6000 Series

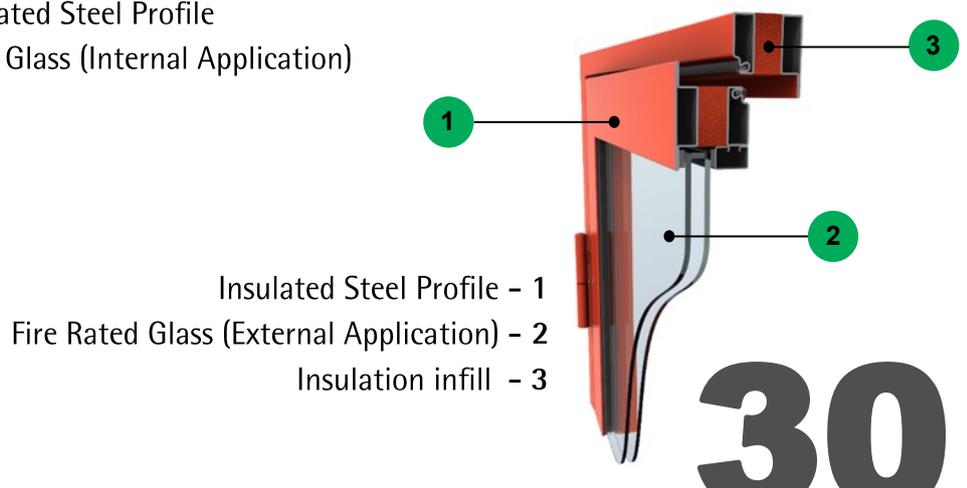
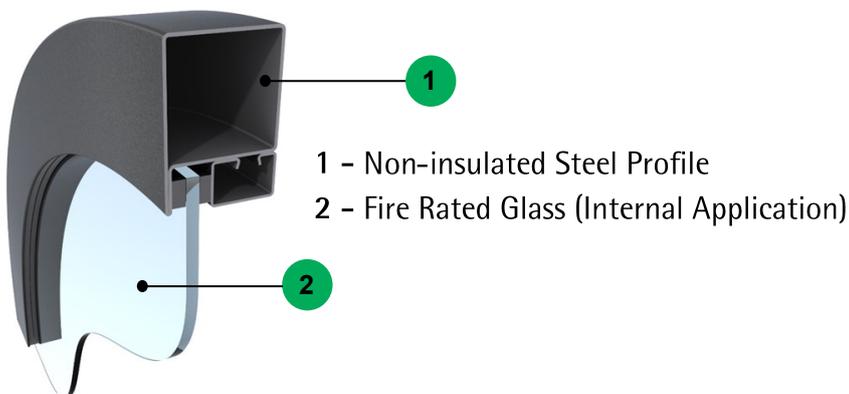
SP 6000 • SP 60000

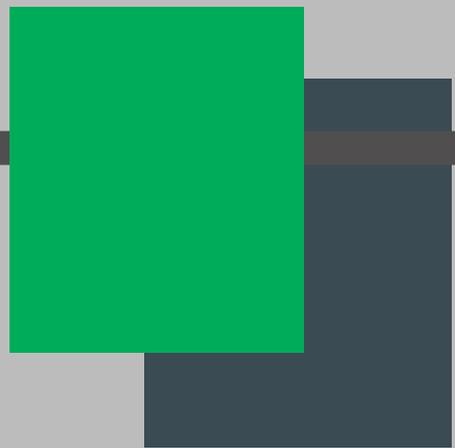
Profile system with a thermal bridge for glazed facades, slanted window sections, glazed roof and lantern lights.

90000 Series

SP 95000 • SP 956500 • SP 976500 • SP 96000 etc.

Profile system in stainless steel acid-resistant quality EN 1.4404 (AISI 316L) without insulation, insulated with a thermal bridge or fire insulated profiles for glazed facades, doors, sliding doors, partition walls and window sections





Fire Rated Aluminium System

Zamil Safety Security Systems provides variety of fire rated aluminium structural elements that are responsible for "fire protection zones" in buildings. The fire resistance performance of these solutions, depending on the project requirements, is available in a variety of classes, from EI 15 to EI 120 for vertical assemblies.



45 Series

EW30 Fire partition walls with door.

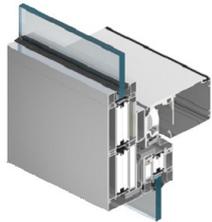
The 45 series system enables the fabrication of fire-rated single and double doors and fixed partition walls with doors



78 Series

EI15, EI30, EI45, EI60, EI90, EW15 & EW60 Fire partition walls with door.

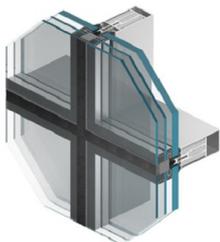
The 78 series has been developed for the producing of internal or external fire rated partition walls, with single- or double-leaf doors featured by a fire resistance class of EI 15, EI 30, EI45 EI 60 or EI 90



78 DPA Series

EI15 and EI30 Automatic Fire Rated Sliding Door.

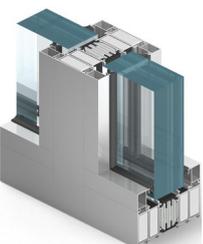
The 78 DPA series is intended to make fire rated partitions with automatic, single and double leaf sliding doors. Their fire resistance class of EI 15 and EI 30 is kept when they are exposed to fire both from the outside and the inside.



50 SG Series

EI30 and EI60 Façade System

The 50 SG series is designed for fabrication of fire-rated, EI15 to EI60 infill curtain walls. What distinguishes this product, is the external appearance of the façade, which is free from any visible aluminium elements



118EI Series

EI120 Fire Rated Wall Partition.

The 118 EI fire rated walls are used to make fire partitions with fire resistance class of EI 120. The system is classified as non-fire spreading (NRO). It's design & construction is such that, it provides a technical connection with the 78EI door

60 Series

EI15 and EI30 Fire partition walls with door.

The 60 series system enables the fabrication of fire-rated single and double doors and fixed partition walls with doors



78 Butt-Joint Series

EI30 and EI60 Silicone joined fire-rated glazed walls

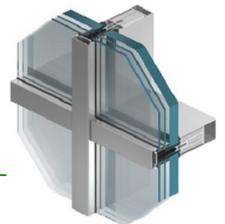
The 78 SG series for transparent fire-resisting walls, the so-called "silicone joined glazed walls".



50 CW Series

EI30 and EI60 Curtain Wall Fire Rated System

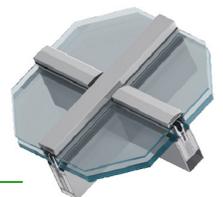
The 50 CW curtain wall fire rated systems have been developed to provide a light-weight curtain & fire resistant wall, of classes EI 15, EI 30, EI45, EI 60 and of fire-resistant glass-covered roofs.

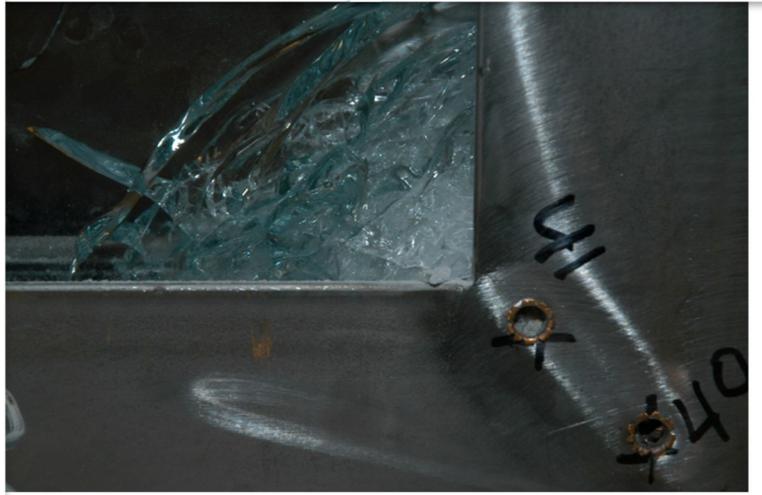


50 Skylight Series

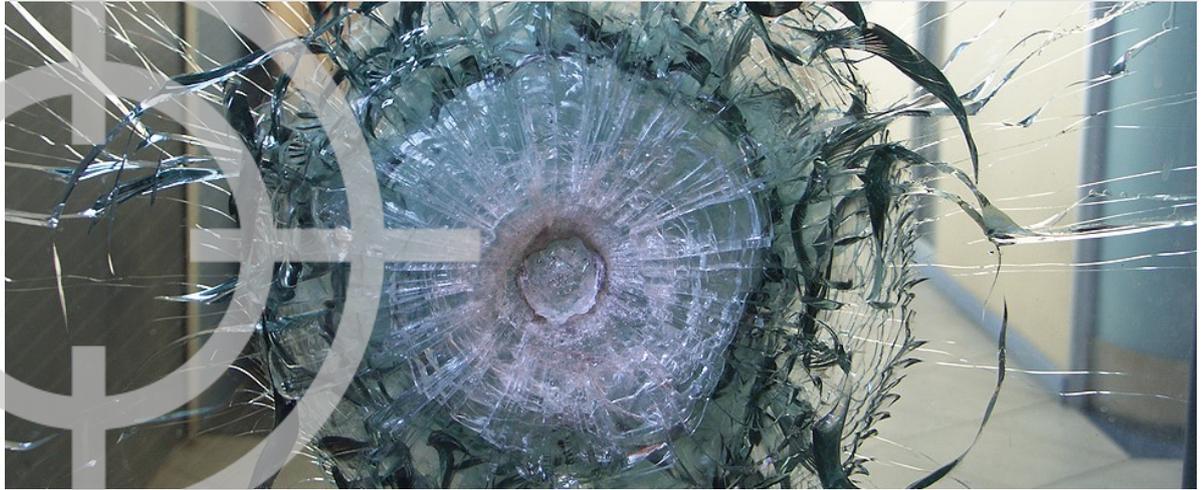
REI 20, REI 30, RE 20 and RE 30 Fire resistant glazed roofs System

Based on the 50 series façade systems, it is possible to perform roof glazing with fire resistance class RE20, RE30, REI20, REI30 according to PN-EN 13501-2 + A1: 2010.





Bullet Resistant

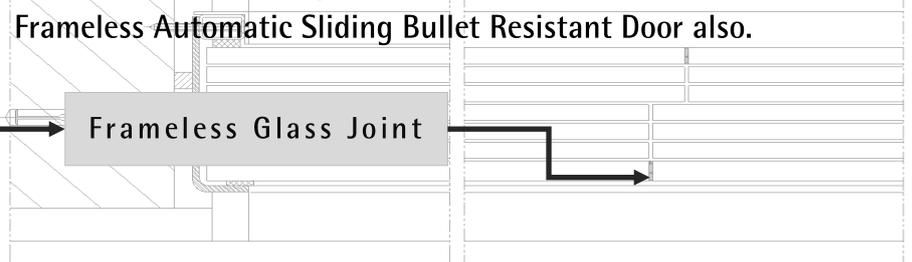


Bullet resistant products for protection against a wide range of ballistic threat levels. Generally these products combine steel/aluminium with mild steel inserts and multilayers of glass for various levels of protection.

Frameless Bullet Resistant Glass



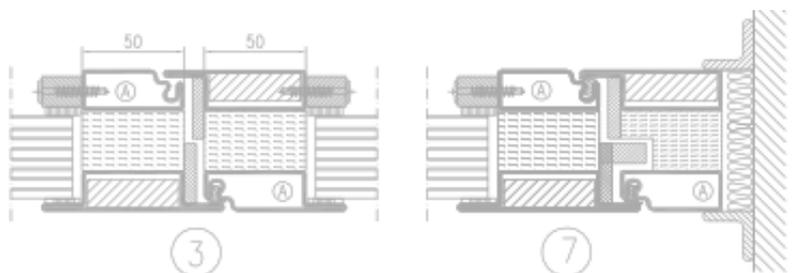
Zamil Frameless Bullet Proof Glass shall provides you endless view without intermediate frames, as well as providing Bullet resistance up to BR7 Level according to EN1063. Zamil provides Custom made Frameless Automatic Sliding Bullet Resistant Door also.



Framed Bullet Resistant Glass

Zamil Framed Bullet Proof Framed Systems are available with wide material selection.

- Steel
- Stainless Steel
- Aluminium



Legislation in Bullet Resistant Products

European Standard EN 1063 & EN 1522

UL 752

National Institute of Justice (NIJ) 018.01

Euro Norm

Underwriters Laboratories - USA

Department of Justice - USA



Comparison of Bullet Resistance Levels - According to EN 1063, UL 752 & NIJ0108.01

| Weapon Type | Bullet Type | Standard | Security Level | Bullet Velocity m / sec | No of shots | Splinters permitted | Level |
|---|---------------------------------------|--|--------------------------------|--|-------------|------------------------------------|--|
| 9mm Parabellum 9 x 19 mm | FJ / RN / WC | EN 1063 | BR 2 S | 400 | 3 | Yes | 1 |
| | FJ / RN / WC | UL 752 - 2005 | I | 375 | 3 | No | 2 |
| | FJ / RN / WC | EN 1063 | BR 2 NS | 400 | 3 | No | |
| | FJ / RN / WC | NIJ 0108.01 | II A | 332 | 5 | No | 3 |
| .357 Magnum | FJ / CB / WC | EN 1063 | BR 3 S | 430 | 3 | Yes | 4 |
| | FJ / CB / WC | EN 1063 | BR 3 NS | 430 | 3 | No | 5 |
| | FJ / CB / WC | UL 752 - 2005 | II | 400 | 3 | No | |
| | FJ / CB / WC | NIJ 0108.01 | II | 358 | 5 | No | 6 |
| .44 Magnum | FJ / FN / WC | EN 1063 | BR 4 S | 440 | 3 | Yes | 7 |
| | FJ / FN / WC | UL 752 - 2005 | III | 430 | 3 | No | 8 |
| | FJ / FN / WC | EN 1063 | BR 4 NS | 440 | 3 | No | |
| | FJ / FN / WC | NIJ 0108.01 | III - A | 426 | 5 | No | 9 |
| 7.62 x 39 AK-47 Kalashnikov | FJ / PB / SC | GOST P 51136 - 98 | 3 | 720 | 3 | No | 10 |
| | FJ / PB / SC2 | STANAG 4569 | 2 | 695 | 3 | No | 11 |
| | FJ / PB / SC2 | GOST P 51136 - 98 | 5 | 720 | 3 | No | |
| | FJ / PB / SS109 | EN 1063 | BR 5 S | 950 | 3 | Yes | 12 |
| 5.56 x 45 M-16 / AR-15 | FJ / PB / SS109 | EN 1063 | BR 5 NS | 950 | 3 | No | 13 |
| | FJ / PB / WC | UL 752 - 2005 | 5 | 830 | 1 | No | 14 |
| 7.62 x 51 G-3 | FJ / PB / WC | EN 1063 | BR 6 S | 830 | 3 | Yes | 15 |
| | FJ / PB / WC | EN 1063 | BR 6 NS | 830 | 3 | No | 16 |
| | FJ / PB / WC | UL 752 - 2005 | 8 | 900 | 5 | No | 17 |
| | FJ / PB / WC | NIJ 0108.01 | III | 838 | 5 | No | 18 |
| | FJ / PB / SC2 | NIJ 0108.01 | IV | 868 | 1 | No | 19 |
| | FJ / PB / WC | UL 752 - 2005 | 7 | 950 | 3 | No | 20 |
| | FJ / PB / SC2 | EN 1063 | BR 7 S | 820 | 3 | Yes | 21 |
| | FJ / PB / SC2 | EN 1063 | BR 7 NS | 820 | 3 | No | 22 |
| 7.62 X 54 SVD Dru- ganov / Kanas | FJ / PB / SC4 | STANAG 4569 | 3 | 930 | 3 | No | 23 |
| | FJ / PB / SC | GOST P 51136 - 98 | 5 | 830 | 3 | No | 24 |
| | FJ / PB / SC2 | GOST P 51136 - 98 | 6 | 830 | 3 | No | 25 |
| | FJ / PB / SC3 | GOST P 51136 - 98 | 6a | 820 | 3 | No | 26 |
| FJ - Full Metal Jacket RN - Round Nose FN - Flat Nose | FJ / PB / SC4 | GOST P 51136 - 98 | Special | 1000 | 1 | No | 27 |
| | WC - Weak Core CB - Conical Bullet | PB - Pointed Bullet SC - Steel Core | SC2 - Steel Core Level 2 | SS109 - Armor Piercing Soft Ker- nel | | SC3 - B32 Armor Piercing Kernel | SC4 - Special Armor Piercing Kernel |





Certificate of Compliance For Bullet Resistant Frame



REPORT

Handled by, department
Sven-Agne Nilsson
Building Technology and Mechanics
+46 10 516 52 15, sven-agne.nilsson@sp.se

Date
2008-05-29
Reference
P601210
Translation date 2008-05-29

Page
1 (2)

Test of bullet resistance according to SS-EN 1523 (2 appendices)

1 Introduction

SP has tested profile systems with respect to bullet resistance.

2 Test Method

The test was performed according to SS-EN 1523 "Windows, doors, shutters and blinds – Bullet resistance – Test method" edition 1. The requirements are in SS-EN 1522 "Windows, doors, shutters and blinds - Bullet resistance - Requirements and classification" edition 1.

3 Object of Test

The profile system is described in drawings in appendix 1.

The test objects were delivered by the manufacturer on 13 March 2006 and were tested the same day.

The test was performed by personnel from Vanäsverken in Karlsborg and was supervised by SPs representative Sven-Agne Nilsson. Personnel from _____ was present at all tests.

The profile system was fitted in a steel frame with impact-side placed in the target direction.

Both firmly och opening profile system were tested, which is described in appendix 1.

4 Procedure and Results

4.1 Equipment

The equipment that was used for all tests belonged to Vanäsverken and personnel from this company handled this equipment. Used equipment is described in document "Testresultat" in appendix 2. There is also a description of other parameters for example air temperature, air humidity and speed for respectively shoot.

SP Technical Research Institute of Sweden

Postal address
SP
Box 857
SE-501 15 Borås
SWEDEN

Office location
Västeråsen
Brinellgatan 4
SE-504 62 Borås
SWEDEN

Phone / Fax / E-mail
+46 10 516 50 00
+46 33 13 55 02
info@sp.se

This document may not be reproduced other than in full, except with the prior written approval of SP.



Certificate of Compliance For Bullet Resistant Glass



Notified Body nr. 0336

Certificate of constancy of performance

0336 – CPR – 89205280-C-EU

In compliance with Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction product(s)

Laminated safety glass with the intended use resistance to bullets

specified by the commercial name(s)
VETROGARD 872.81-NS, EN 1063 classification: BR 7-NS / SG 2-NS
Testreport **TNO 14LBR/1167 (SG2-NS)**
No.122/BAL-AG/vp (BR7-NS)

placed on the market under the name or trade mark
Vetrotech Saint-Gobain International AG
Bernstrasse 43, CH-3175 Flamatt, Switzerland

and produced in the manufacturing plant(s)
Vetrotech Saint-Gobain Kinon GmbH, Jülicher Strasse 495, D-52070 Aachen, Germany

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the standard(s)

EN 14449:2005/C1:2006

Under system 1 for the performance set out in this certificate are applied and that the factory production control conducted by the manufacturer is assessed to ensure the constancy of performance of the construction product

This certificate was first issued on 26 August 2014 and will remain valid as long as neither the harmonised standard, the construction product, the AVCP methods, nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified product certification body.

TÜV Rheinland Nederland BV
Westervoortseweg 73
- 6827 AV Arnhem
The Netherlands

Arnhem, 29 July 2016

C.C.M. van Houten, Manager operations

Page 1 of 1

www.tuv.com/nl

 **TÜVRheinland®**
Precisely Right.

40

Burglar Resistance



Zamil Safe Security Systems can be made burglary resistant according to various national and international standards and regulations. Our profile systems already has a high resistance to external wear and tear and can comply with comprehensive security requirement standards.

Do you know?

Standards for burglary resistance refers mainly to door sections.

Types of Burglar Resistance - European Standard ENV 1627: 1999

| Resistant Class | Perpetrator and method | Manual Test Time DIN V ENV 1630: DIN V EN V 1630: |
|-----------------|--|---|
| RC1 | Vandalism: Kicking, pressing, jumping against. Little protection against levering | - |
| RC2 | Opportunist: Bodily force, simple tools e.g. screwdriver, shim, pliers | 3-15 Minutes |
| RC3 | Opportunist: With additional second screwdriver and crowbar | 5-20 Minutes |
| RC4 | Experienced perpetrator: Additional use of saw and tools such as axe and chisel, hammer, electric drill | 10-30 Minutes |
| RC5 | Experienced perpetrator: Additional use of electric tools, such as drill, jigsaw or saber saw | 15-40 Minutes |
| RC6 | Experienced perpetrator: Additional use of more powerful electric tools than WK5 | 20-50 Minutes |



Blast Resistance

Blast Resistance - Standard to EN 13541

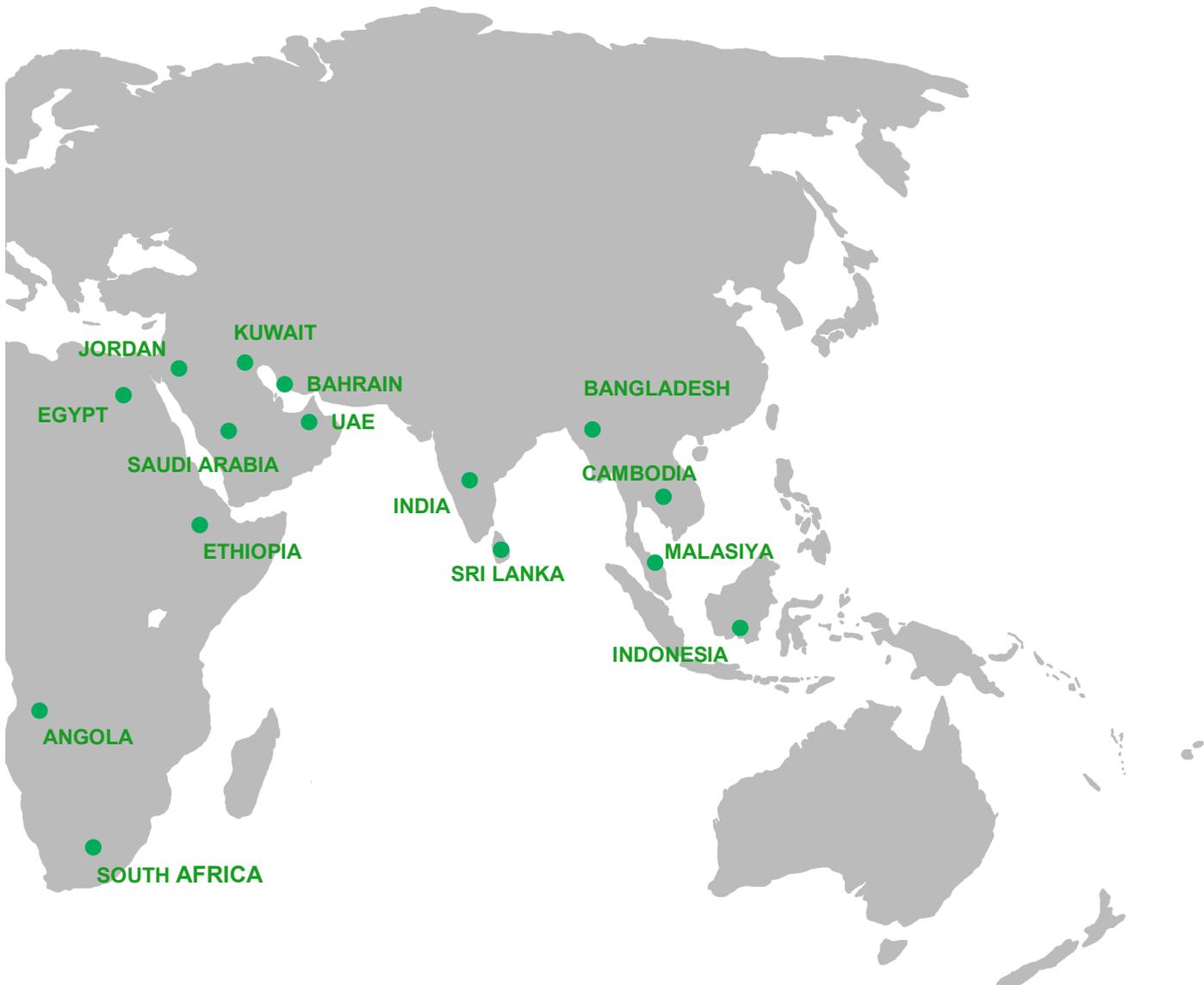
| Resistant Class | Quantum of Pressure (kpa ms) | Quantum of Over Pressure (ms) |
|-----------------|------------------------------|-------------------------------|
| ER1 | 370 - 900 | ≥20 |
| ER2 | 900 - 1500 | ≥20 |
| ER3 | 1500 - 2200 | ≥20 |
| ER4 | 2200 - 3200 | ≥20 |

Zamil Safe Security Systems offers blast resistant windows combine outstanding performance characteristics with the appearance of standard metal window products. Our entire range of blast resistant window products is engineered to meet the unique requirements of building projects in a variety of demanding environments.

41



**Bringing the
Finest ,
Safety & Security
Fenestration
Solutions
to the entire world.**



Worldwide
Zamil Safety
Security
Systems

Zamil Safety Security Systems



CONTACT US TODAY

Zamil Architectural Industries / P.O. Box 1633 Dammam 31441 / Saudi Arabia

Tel : +966 13 8471555 / +966 920 005939

Email: info@zamilal.com

www.zamilarc.com