Fireproof Shutter Door

BRITISH FIREPROOF STANDARD BS 476 PART 22

High-Performance Fireproof Shutter

- The Shutter displays its “protective power” when a fire breaks out.
- The high-performance (fireproof shutter) shuts out the force of fire, completely protecting the protected area.
- The screen has passed the British Fireproof Standard BS476, Part 22

Photo of fire-resistance test

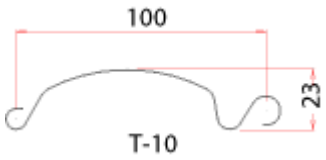
Specifications

Operation

Electric type (3-point pushbutton)
Manual type (Chain/Handle)

Material

1.Shutter Slat



Roll formed from 1st grade Zincalume steel flat slat curtain thickness 1.6 mm.

2.Guide Rail

Fabricated from Zincalume steel thickness 1.5 mm size 75x55 mm

3.Bottom Bar

Assembled of Zincalume steel thickness 1.0 mm with bolted 600 mm pitch together with nuts or 2 pieces of 50x50x3.5 mm steel flat bar.

4.Shutter Box

Fabricated from heavy duty 6.0 mm steel plate for both ends and supports with steel frame with very well black primer one coat. Box covers shall be of 1.6 mm steel sheet with zincalume.

5.Motor Drive Unit

380V/ 50Hz 3 phase
Manual Chain Override
One unit push button switch
Gravity drop level

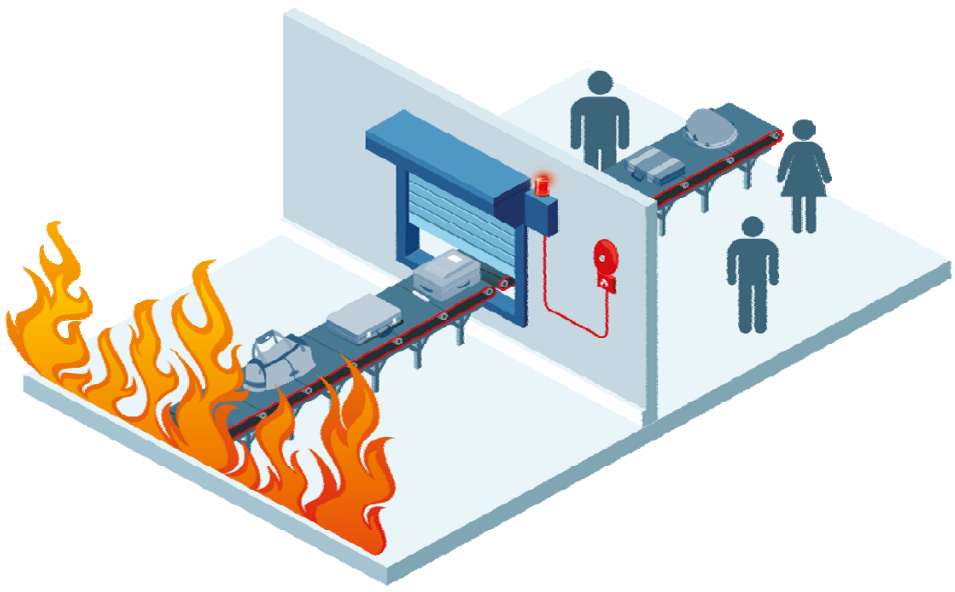
Fire-Prevention system

Automatic Closing Device: Interlocked with Fire Sensoring System, operates a Brake release of Operators for shutter close, when Fire break out.
(electric solenoid releaser) is used which releases the brake of the motor, upon receipt of a 24 VDC. A reset pull is provided to reapply the brake on the motor.

Fusible Link System: Upon sensing a temperature of 68°c, the fusible link mechanism releases the brake of the motor and allows it to descend by gravity.

Option

Connection to the heat / smoke detection systems provided by the building management system.



Fire Test Analysis

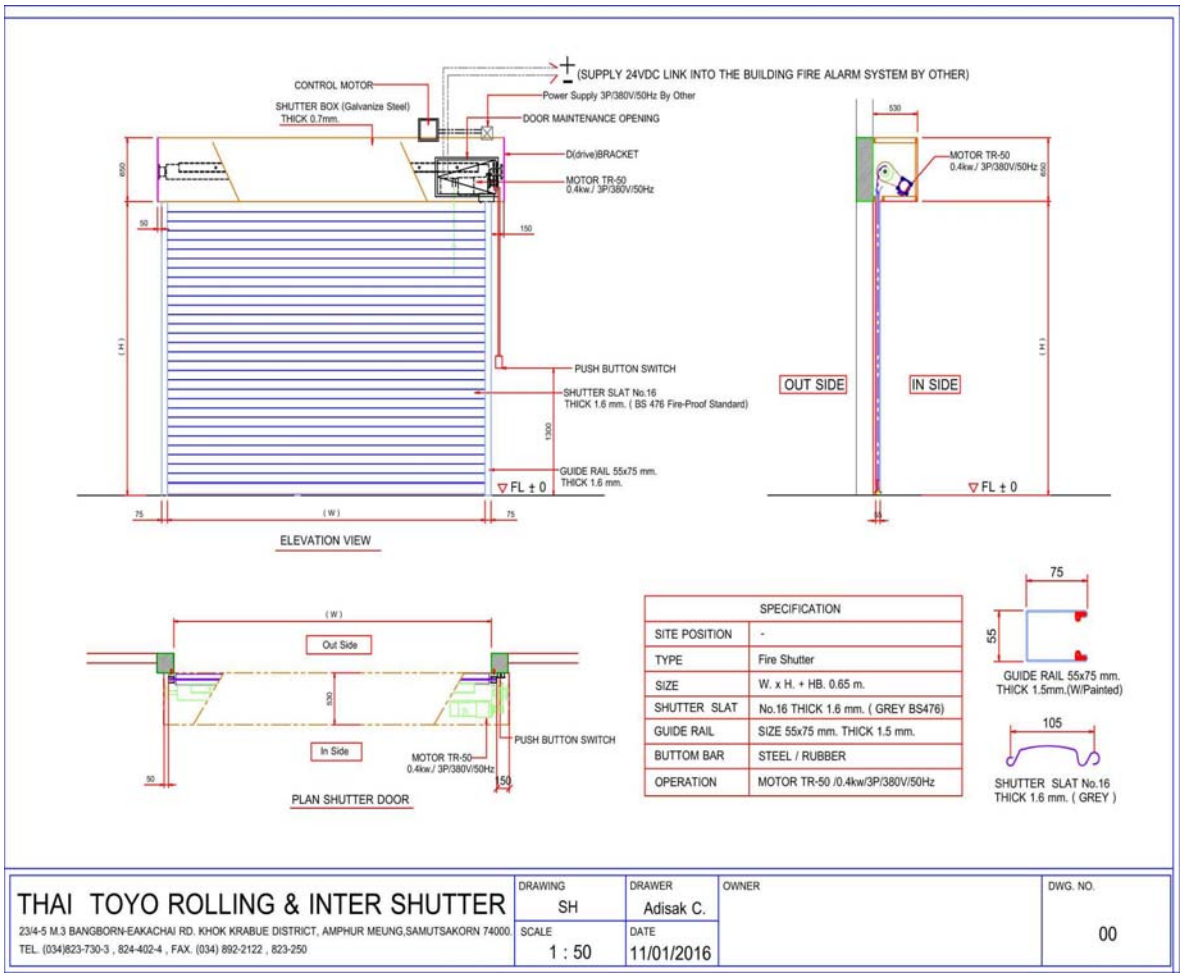
Before Testing

During Testing

After Testing

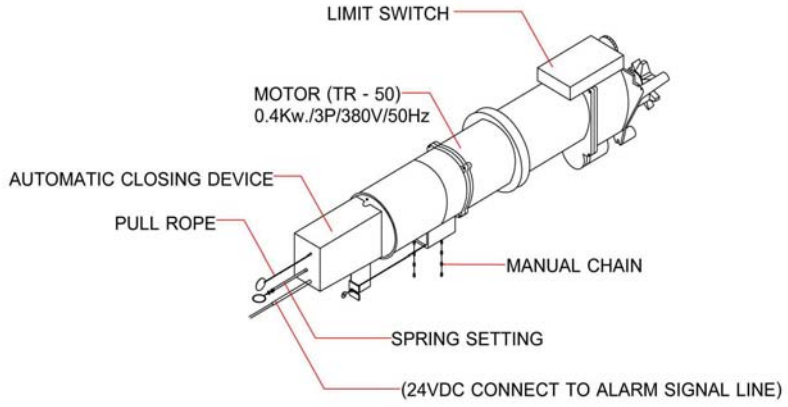
* The test was terminated after 2.00 hrs. No visible sign of damage or leak and no passage of flame or gases hot enough to ignite the cotton waste.

FIRE SHUTTER TROPICAL DRAWING



SPECIFICATION	
SITE POSITION	-
TYPE	Fire Shutter
SIZE	W. x H. + HB. 0.65 m.
SHUTTER SLAT	No.16 THICK 1.6 mm. (GREY BS476)
GUIDE RAIL	SIZE 55x75 mm. THICK 1.5 mm.
BUTTOM BAR	STEEL / RUBBER
OPERATION	MOTOR TR-50 /0.4kw/3P/380V/50Hz

THAI TOYO ROLLING & INTER SHUTTER	DRAWING	DRAWER	OWNER	DWG. NO.
23/4-5 M.3 BANGBORN-EAKACHAI RD. KHOK KRABUE DISTRICT, AMPHUR MEUNG,SAMUTSAKORN 74000. TEL. (034)823-730-3 , 824-402-4 , FAX. (034) 892-2122 , 823-250	SH	Adisak C.		00
	SCALE 1 : 50	DATE 11/01/2016		



THAI TOYO ROLLING & INTER SHUTTER	DRAWING	DRAWER	OWNER	DWG. NO.
23/4-5 M.3 BANGBORN-EAKACHAI RD. KHOK KRABUE DISTRICT, AMPHUR MEUNG,SAMUTSAKORN 74000. TEL. (034)823-730-3 , 824-402-4 , FAX. (034) 892-2122 , 823-250	SH	Adirek C.		00
	SCALE 1 : 20	DATE 16/5/2014		

FACULTY OF ENGINEERING
CHULALONGKORN UNIVERSITY
FIRE SAFETY RESEARCH CENTER

TYPE OF TEST : DETERMINATION OF THE FIRE RESISTANCE OF NON-LOADBEARING ELEMENTS OF CONSTRUCTION

TEST SPECIMEN : **ROLLING SHUTTER DOOR**

The specimen is a 1000x2000 mm steel rolling shutter with the thickness of 1.6 mm. The specimen was installed to a 15 cm thick reinforced concrete wall, which was installed to the testing frame. At the bottom of the specimen, a concrete lintel is cast as the supporting member for the door shutter. The details of the specimen are presented in Appendix C. The specimen was provided and installed by the client.

CLIENT : **Thai Toyo Rolling Co., Ltd.**

DATE OF TEST : August 21, 2006

TEST MACHINE : Large-scale vertical furnace (Fire Tester III) at the Fire Safety Research Center, Department of Civil Engineering, Chulalongkorn University. The furnace is capable of producing a standard temperature-time relationship according to several fire resistance standards including BS 476 Part 20: 1987.

TEST METHOD : The testing procedures follow the British Standard BS 476: Fire tests on building materials and structures.

BS 476 Part 20: 1987 : Method for determination of the fire resistance of elements of construction (general principles)

BS 476 Part 22: 1987 : Methods for determination of the fire resistance of non-loadbearing elements of construction Section 8: Determination of the fire resistance of uninsulated doorsets and shutter assemblies.

TEST RESULTS : The non-loadbearing element of construction described above has the fire resistance of each criterion for the period stated:

(The test results are good only for the specimen tested.)

Criteria	Fire Resistance (hr:min)	Remarks
Integrity	2:00	The test was terminated at 2:00 hrs. No visible sign of damage or leak of the specimen and no passage of flame or gases hot enough to ignite the cotton waste.

Date: October 12, 2006

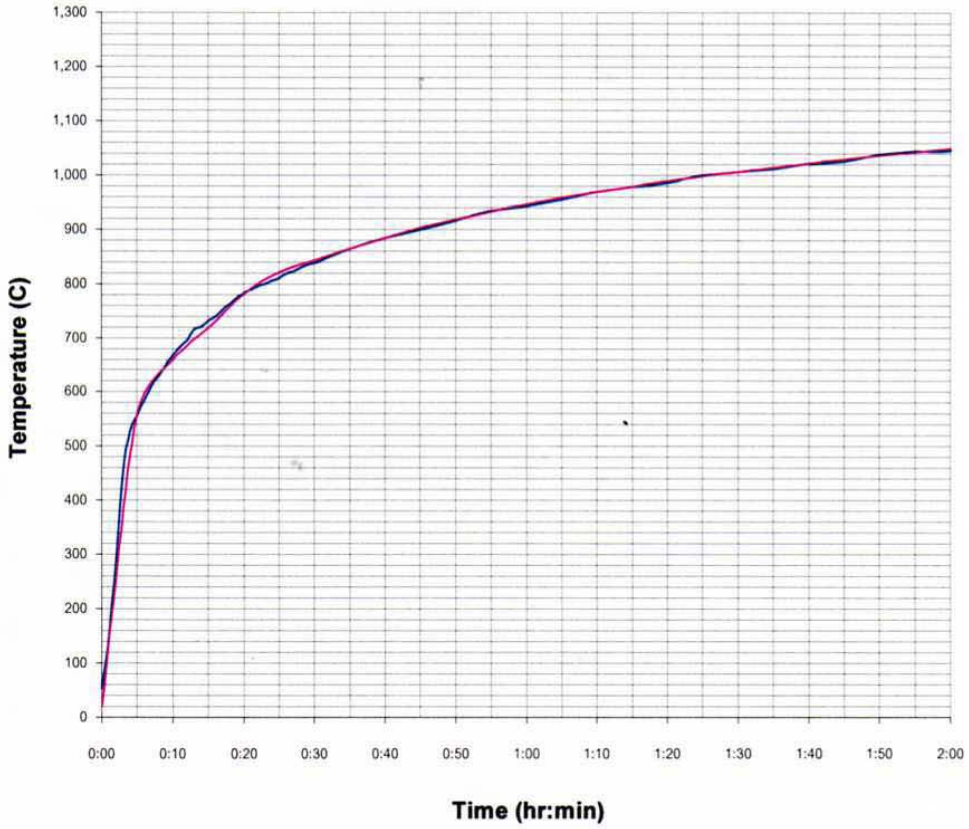
Tested by ..... Suched Likitlersuang .....
(Dr. Suched Likitlersuang)

..... Chatpan Chintanapakdee .....
(Assistant Prof. Dr. Chatpan Chintanapakdee)
On Behalf of Head of Civil Engineering Department

..... Chadchart Sittipunt .....
(Assistant Prof. Dr. Chadchart Sittipunt)

FACULTY OF ENGINEERING
CHULALONGKORN UNIVERSITY
FIRE SAFETY RESEARCH CENTER

FURNACE TEMPERATURE



Date: October 12, 2006

Tested by .....
(Dr. Suched Likitlersuang)

.....
(Assistant Prof. Dr. Chatpan Chintanapakdee)
On Behalf of Head of Civil Engineering Department

.....
(Assistant Prof. Dr. Chadchart Sittipunt)

Product Warranty

1. Warranty Period

(1) The product has one year warranted after finish installationed.

(2) The warranty period will not be extended even if the product is serviced or repaired during or after the warranty period. The same also applies to repaired or replaced parts.

2. Scope of Warranty

(1) The product is warranted against any defect ot failure that may occur during the warranty period under normal use conditions in compliance with the standard specifications, installation manual and operation manual.

3.The Warranty does not apply to the following cases.

(1) Product failure or damage from improper product repair or modification by a user.

(2) Product failure or damage from misuse or erroneous operation by a user.

(3) Product failure or damage from (fire disaster, earthquake, wind, flood damage, lightning, freezing)

บริษัท ไทยโตโย โรลลึง จำกัด

THAI TOYO ROLLING CO.,LTD

ห.จ.ก. อินเตอร์ชัตเตอร์

INTER SHUTTER LTD.,PART

23/4-5 หมู่ 3 ถ.เอกชัย-บางบอน ต.คอกกระบือ

อ.เมือง จ.สมุทรสาคร 74000

23/4-5 Moo.3 Eakachai-Bangbon Rd, Khok Krabue District,

Amphur Meung, Samutsakorn 74000

มอก. 593-2530

Tel: (034) 823730-3 (AUTO), 824402-4 FAX: (034) 823250-1

www.thai-toyo.com email: thai_toyo@yahoo.com, info@thai-toyo.com