

THOMAS BELL-WRIGHT

A PHENNA GROUP COMPANY



In accordance with IAS accreditation to ISO/IEC 17065
Certification is Hereby Granted

to

**Saudi Factory for Fire
Equipment Co. (SFFECO)**

P.O Box 58469, 2nd Industrial Area,
Al Kharj Road, 14334, Riyadh, Kingdom of Saudi Arabia

for

**Latched Single-Acting,
Single Leaf Steel Doorset**

EN 13501-2-2023 Classification based on EN 1634-1:2014+A1:2018

which, subject to limitations described on the following pages and continued
listing on www.tbwcert.com, complies with Product Certification Scheme
SD01 Fire Resistant Door & Hardware

In witness whereof, this Certificate is issued this 1st day of August 2025



Sandy Dweik
Chief Executive Officer

Nicholas Purcell
Director of Certification

Certificate Number: TBW0101149

Initial registration: August 1, 2025

Issued: August 1, 2025

Expiration: July 31, 2028

File Name: YE159_CRT_SD02RF_SLSD_Issue1_1149_(f)

Issue 1

This certificate and schedules are held in force by regular Factory Inspections by Thomas Bell-Wright International Consultants (TBWIC).
Refer to www.tbwcert.com or contact TBWIC Certification Division to validate the current status of the Certification.
This certificate remains a property of Thomas Bell-Wright International Consultants.
P.O. Box 26385, Dubai, UAE. | Tel: +971 4 8215777 | Email: certification@bell-wright.com | Web: www.bell-wright.com
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F 19 Scheme Certificate Issue 8 Issued Mar 2024

Latched Single-Acting, Single Leaf Steel Doorset

- A. Certification is given for subject doorset in accordance with the manufacturer's installation instructions to provide Fire Resistance in accordance with classification standard EN 13501-2-2023, "Fire classification of construction products and building elements. Classification using data from fire resistance tests, excluding ventilation services", based on test standard EN 1634-1:2014+A1:2018, "Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware Fire resistance test for door and shutter assemblies and openable windows", subject to the limitations stated herein. The summary of the scope of this Certification is listed in Table 1 below. subject to the limitations stated herein. The summary of the scope of certification is stated below.

Table 1. Summary of the Scope of Certification

Product Name/Reference	Resistance to Fire Performance		Report Reference
	Fire Resistance Classification [1]	Standard	
Latched Single-Acting, Single Leaf Steel Doorset	E 60 [2] [4] EW 60 [3] [4]	EN 1634-1:2014+A1:2018 EN 13501-2-2023	YL832-1 Rev.01 YL832-2 Rev.01 ZC004/09/07/25/01
	E 180 [2] [5] EW 180 [3] [5]		

[1] E - Integrity, I - Insulation, W - Radiation

[2] Refer to Table 2 for the allowable doorset dimension


[3] Refer to Table 3 for the allowable doorset dimension

[4] See clause D.6

[5] See clause D.7

- B. Readers of this document should be familiar with the fire test standard and the requirements of ISO/IEC 17065:2012. The Certification will be listed on www.tbwcert.com while it remains current. This Certification is not valid if it is not so listed.
- C. The product is approved based on TBWIC Product Certification Scheme SD01 Fire Resistant Door & Hardware (Issue 9), which includes pre-test sampling, evidence of performance (under report reference(s) in Table 1), Technical Verification and Proof of Performance, compliance to Factory Production Control requirements and surveillance & Re-certification Inspection/Audits.
- D. Limitations
- D.1. This certification covers the fire resistance performance of the doorset against the requirements of EN 1634-1:2014+A1:2018 and EN 13501-2-2023.
- D.2. This certification covers the complete doorset assembly and does not cover individual components on their own.
- D.3. This certification covers the specifications of the components, ironmongeries and accessories, as detailed in Section E.

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- D.4. All hardware items shall be as tested. Alternate hardware is not allowed unless otherwise approved by TBWIC Certification.
- D.5. This certification is valid for fire exposure only from one direction.
- D.6. In context of E 60 / EW 60, this certification is only valid for latched single acting single leaf doorset with vision panel and door closer.
- D.7. In context of E 180 / EW 180, this certification is only valid for latched single acting single leaf doorset with or without vision panel, and door closer on the fire exposed side.
- D.8. The design of the doorset covered under this certification, including the exact specification of the components, method of fixing, and condition of such components subjected to the fire test, shall be duplicated when installed on the site. The design and components of the doorset system are not permitted to be substituted, eliminated, or interchanged unless recognised and approved by this certification.
- D.9. Only resistance to fire characteristic of the assembly is covered under this Certification; other properties such as (but not limited to) structural, acoustical, weather resistance, durability toxicity level of smoke developed during combustion etc., are not addressed.
- D.10. The doorset shall be installed only in a rigid supporting construction consisting of either blockwork, masonry, or a homogenous concrete wall with a minimum density of 2350 kg/m³ and thickness appropriate for the expected fire resistance period, with steel bolts fixing and with frame backfill. Other types of supporting construction are not allowed unless otherwise approved by this Certification.
- D.11. The doorset covered under this certification shall be provided with a label fixed at the specified locations, which contains the details of the company, the rating of the door, the test standard and the QR code that links to the TBWIC Product Certification listing portal.
- D.12. This certification covers the doorset dimensions, as mentioned in Table 2. Full details of the door construction and configuration can be referred to in the TBWIC test report reference "YL832-1 Rev.01".

Table 2. Permitted dimensions for E 60 / E 180 Classification

	Tested Doorset Dimensions	Permitted Doorset Dimensions
Leaf Height	2127 mm	2446 mm (max)
Leaf Width	1084 mm	1246 mm (max)
Nominal Leaf Thickness	45 mm	45 mm
Frame Height	2200 mm	2530 mm (max)
Frame Width	1200 mm	1380 mm (max)
Minimum Jamb Depth	200 mm	200 mm
Minimum Jamb Stop	18 mm	18 mm

Note: The increase in the door dimension shall be pro-rata and shall not, in any case, result in a doorset area of more than 20% over the tested doorset.

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Table 3. Permitted dimensions for EW 60 / EW 180 Classification

	Permitted Doorset Dimensions
Leaf Height	2127mm (max)
Leaf Width	1084 mm (max)
Nominal Leaf Thickness	45 mm
Frame Height	2200 mm (max)
Frame Width	1200 mm (max)
Minimum Jamb Depth	200 mm
Minimum Jamb Stop	18 mm

E. Product Details

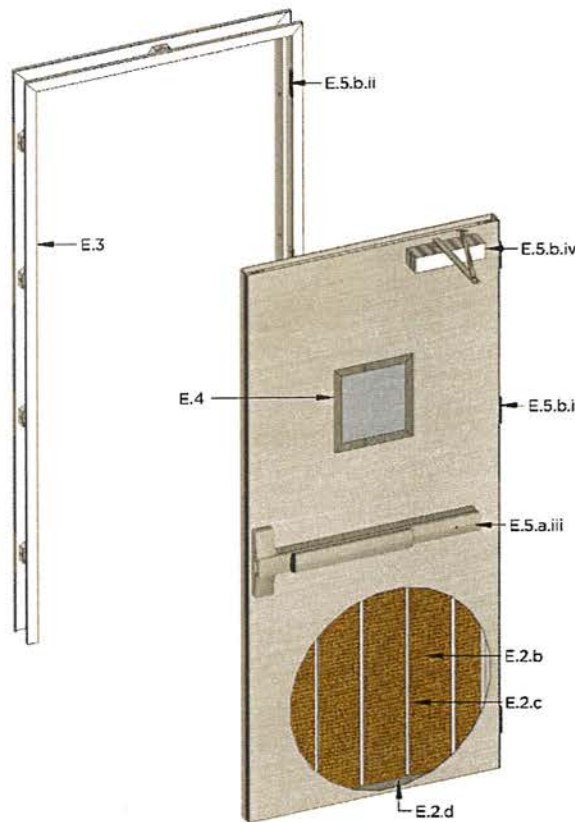


Figure 1. Typical Door Construction Detail (Unexposed Side)

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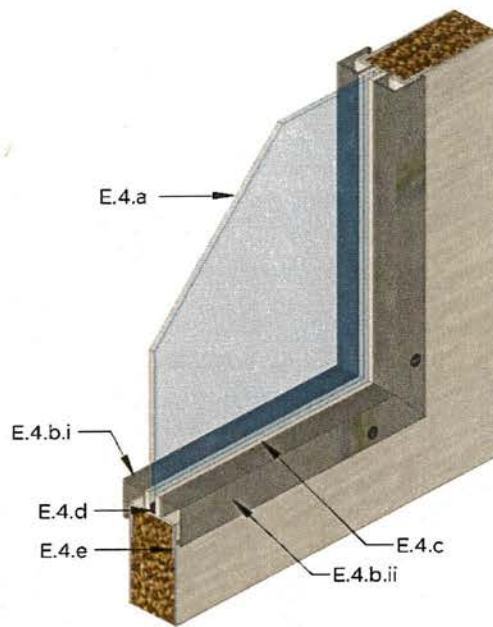


Figure 2. Typical Glazing Construction

E.1. Door Configuration

The doorset shall be latched single-acting, single-leaf steel doorset with mineral wool infill. The leaf skin shall be made of 1.2 mm thick galvanised steel (ASTM A653, CS Type B). The permitted dimensions of the doorset shall be according to Table 2.

E.2. Leaf Construction

a. Edge Construction Detail

“Interlocking Edge” construction made of 1.2 mm thick galvanised steel (ASTM A653, CS Type B), spot welded at a nominal distance of 250 mm from the edges and 400 mm centres. The edge construction details may not be changed.

b. Core

Material: unfaced mineral wool slabs
 Reference: “Panel None 40 mm”
 Nominal Thickness: 43 mm
 Nominal Density: 80 kg/m³
 Manufacturer: Saudi Rockwool Factory
 Application: Placed between the leaf skins and stiffeners.

c. Stiffeners

Description: Galvanised steel, C-channel profile
 Grade: ASTM A653, CS Type B
 Dimension: 42 × 20 × 20 × 1.5 mm (web × flange × crown × thickness)
 Application: Two parallel stiffeners, shall be welded vertically to the inner surface door leaf, spot-welded at a nominal distance of 200 mm centres. The maximum distance between stiffener and the door edges shall be 140 mm and 179 mm centres between stiffeners.

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d. Top and Bottom Edge Channel

Description: Galvanised Steel U-Channel

Grade: ASTM A653, CS Type B

Dimensions: 42 × 15 × 1.5 mm (web × flange × flange × thickness)

Fixing: Recessed type fixing on the top and bottom edges of the inner surface of the door leaf faces, spot-welded at a nominal distance of 10 mm from the edges and 90 mm centres.

E.3. Door Frame

Description: Galvanised Steel, open profile, Double rabbet jamb and header

Grade: ASTM A653, CS Type B

Nominal Thickness: 1.5 mm

Fixing:

- Mitred-corner joint between the header and the jamb, welded and ground smooth.
- Fixed to the masonry wall using galvanised steel anchor plates (170 × 48 × 1.5 mm), welded to the interior surface of the soffit of the door frame at a nominal spacing of 350 mm from the edges and 500 mm centres, and fastened using Ø8 × 150 mm galvanised steel anchor bolts.
- Installed with frame backfill using cement masonry grout.

E.4. Glazing System

a. Glass Pane

Reference: "SCHOTT PYRAN® Platinum"

Dimension: 300 × 300 × 5 mm (width × height × thickness)

Manufacturer: Khalid Abbas Khazal Metal Industries Factory

b. Glazing Beads

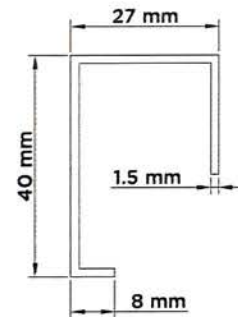
i. Beading Profile 1 - Unexposed Side

Material: Galvanised steel

Grade: ASTM A653, CS Type B

Thickness: 1.5 mm

Fixing: Spot-welded to the aperture channel, on the unexposed face of the door leaf, at a nominal spacing of 50 mm from ends and 50 mm centres.



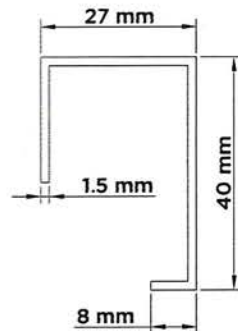
ii. Beading Profile 2 - Exposed Side

Material: Galvanised steel


Grade: ASTM A653, CS Type B

Thickness: 1.5 mm

Fixing: Fixed to the aperture channel, on the exposed face of the door leaf, using Ø4 × 32 mm stainless steel screws at a nominal spacing of 60 mm from ends and 190 mm centres.



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- c. Glazing Tape
Reference: "Kerafix® 2000"
Dimensions 20 × 5 mm (width × thickness)
Manufacturer: Rolf Kuhn GmbH
Application: Self-adhered between the glazing beads and the glass pane.
- d. Setting Block
Reference: "Flammi 12"
Dimensions: 50 × 10 × 5 mm (length × width × thickness)
Manufacturer: Rolf Kuhn GmbH
Application: Two (2) nos. placed at the bottom and two (2) nos. placed at the top of the glazing pane, at a nominal distance of 50 mm from the corners.
- e. Aperture Channel
Material: Galvanised steel
Grade: ASTM A653, CS Type B
Dimensions: 44.5 × 40 × 1.5 mm (web × flange × thickness)
Fixing: Welded to the door leaf skins at a nominal distance of 50 mm from ends and 50 mm centres.

E.5. Hardware

- a. Door Handle and Touchbar
 - i. Lever Handle
Description: Stainless steel lever handle
Reference: "CWEST Outside Trim Lock Part No: 026"
Manufacturer: CWEST
Application: Installed at a nominal height of 1080 mm from the bottom edge of the exposed face of the door leaf.
 - ii. Touchbar
Description: Rim latch surface-mounted panic touchbar with a minimum latch throw engagement of 12.1 mm.
Reference: "DI-80 Rim Type Panic Exit Device"
Manufacturer: KINDDER
Application: Installed at a nominal height of 1080 mm from the bottom edge of the exposed face of the door leaf.
 - iii. Handle Reinforcement
Material: Galvanised steel
Grade: ASTM A653, CS Type B
Dimensions: 200 × 125 × 42 × 1.5 mm (length × width × depth × thickness)
Fixing: One nos shall be welded near the hinge side and one nos near the latch edge side of the door leaf, aligned on the location of the handle and the touchbar.
- b. Hinges, Flush Bolt and Door Closer
 - i. Hinge
Description: Stainless steel ball-bearing butt hinges
Reference: "4 × 3.5 × 3.2BB"
Manufacturer: Chongqing Do-Link Industry Ltd.
Dimensions: 4" × 3.5" × 3.2 mm (height × width × thickness)
Application: 4 nos shall be installed using stainless steel screw at a maximum spacing of 214 mm from the top edge of the doorset, 550 mm centres, and 158 mm from the bottom edge.

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- ii. Hinge Reinforcements
Material: Mild Steel
Grade: Stw22
Dimensions: 206 × 32 × 4 mm (length × width × thickness)
Fixing: Welded to the inner surfaces of the door frame and leaf, at a nominal spacing according to the hinges location.
- iii. Hinge Reinforcement Cover
Material: Galvanised Steel
Nominal thickness: 1.2 mm
Fixing: Welded to cover the hinge reinforcement in both leaf and frame.
- iv. Door Closer
Description: Surface mounted door closer
Reference: "UC68V"
Manufacturer: Universal International
Application: Installed in the unexposed face of the door leaf on the top face near the top most hinge.
- v. Door Closer Reinforcements
Material: Galvanised Steel
Grade: ASTM A653, CS Type B
Dimensions: 350 × 150 × 2 mm (length × width × thickness)
Fixing: Welded to the inner surfaces of the door leaf, according to the door closer location.

F. Approved Manufacturing Location

P.O Box 58469, 2nd Industrial Area,
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