ESL

مختبر الإمارات للسلامة
EMIRATES SAFETY LABORATORY

ESLGlobal.com

CERTIFICATE OF CONFORMITY

Issue: **01**

Certificate number: **ESL-24-11691**

Pursuant to provisions of the Certification scheme on Global Conformity Certification of fire and life safety products (CS-GCC, scheme type 5), Emirates Safety Laboratory hereby grants this certificate of conformity to the product described below:

Exterior Wall Cladding System with 12 mm thick Glass Fibre Reinforced Concrete (GRC) panels
(ESL system designation: FGCB-0006-11691)

Placed on the market under the name or trade mark of:

Al Shafar GRC LLC
Plot No. 533-193 Saih Suhaib 04, Dubai Industrial City,
P.O. Box 117717, Dubai, United Arab Emirates

Manufactured in the following location(s):

Al Shafar GRC LLC
Plot No. 533-193 Saih Suhaib 04, Dubai Industrial City,
P.O. Box 117717, Dubai, United Arab Emirates

Complies with the requirements of the standard(s) as detailed below:

BS 8414-1:2020 Fire performance of external cladding systems – Part 1: Test method for nonloadbearing external cladding systems fixed to, and supported by, a masonry substrate

BS 8414-2:2020 Fire performance of external cladding systems – Part 2: Test method for nonloadbearing external cladding systems fixed to, and supported by, a structural steel frame

BR 135 Third Edition (2013) Fire performance of external thermal insulation for walls of multistory buildings and applicable application

The certificate was first issued on **23 September 2024** and remains valid under the condition that the Certificate Holder fulfils the requirements of the agreement on certification supervision no. **0285/SA/24**.

Signed for ESL	Tomasz Kielbasa Certification Manager	23 September 2024 Date of issue	22 September 2027 Expiry date

This Certificate remains valid till date stated above, unless suspended, withdrawn or terminated. This certificate will not be valid if the manufacturer makes any changes affecting product conformity, which have not been notified to, and agreed in writing with ESL. This Certificate is an electronic document and shall not be reproduced (in any form) except in full. Certificate holder is under an obligation to make references to issued certificate only in conjunction with product(s) that conform to evaluated product construction. Prior to use of this certificate, please verify its validity at ESL.directory

Emirates Safety Laboratory (ESL)
240 Al Awir Road, Warsan 3, Mushraif, Dubai, United Arab Emirates
T: +971 4 520 1800, E: ask@eslglobal.com

GCC ACCREDITATION CENTER GAC
Product Certification ISO/IEC 17065:2012 APC 0097

Appendix to Certificate of Conformity

No: **ESL-24-11691** Issue: **01**

CERTIFIED PRODUCT:

Product / System Description:

Exterior Wall Cladding System with 12 mm thick Glass Fibre Reinforced Concrete (GRC) panels is a non-loadbearing closed-joint type external façade wall system/assembly with 600 mm cavity that is comprised of 12 mm thick factory-produced GRC panels, mild-steel made wall bracket assemblies, thermal insulation, and cavity fire barriers. Cavity fire barriers are installed horizontally & vertically with a closed-state, compressible type cavity barrier placed in-between the base wall and the stiffening rib part of GRC's inner panel face where the mineral wool insulation panel is interrupted perpendicularly. The cavity fire barriers are supported with a factory-made galvanized steel bracket.

Performance Evaluation Summary:

No.	Tested Requirements / Parameter	Results	
		Fire Spread test result time, ts (min)	Compliance with parameter in Annex B of BR 135 Third Edition (2013)
1	External fire spread	No external fire spread was observed	**Compliant**
2	Internal fire spread	No internal fire spread was observed	**Compliant**
3	Internal fire spread burn through	No internal fire spread burn through was observed	**Compliant**

Details of external façade wall assembly/system components specifications covered in this certificate:

a. Design no. (reference drawings by manufacturer):

ASGRC-FT600-ESL-DWG-01 to ASGRC-FT600-ESL-DWG-05
Rev. 03 – as tested to BS 8414-2

b.1 Base Wall Assembly (board-faced SFS wall substrate)

The base wall, made of a 15.9 mm thick Type X (GW-TX) Knauf gypsum board material is constructed to the exterior and interior face of the base wall framing system via 92 x 32 x 1.7 mm (w x h x t) studs using Knauf TB 3.5 ø x 35 mm self-tapping screws. Two layers of Knauf Readygips jointing compound were applied along all exterior meeting edges of the boards and a single strip of Knauf Joint Tape is embedded within the first layer of jointing compound.

b.2 Base Wall Assembly (masonry wall substrate)

The wall substrate with a masonry wall (e.g. brick, block, or reinforced concrete) shall meet the following:

- Fire resistance, ≥ 60 minutes
- Thermal conductivity, not less than 0.11 W/mK
- Thickness, not less than 100 mm

c. Wall Brackets & Framing System:

i. Wall Brackets: Mild Steel (Grade: S275JR & S275J0H);
Dimensions:
BR-01: 667 x 80 x 80 x 5 mm (l x w x h x t) SHS
(+) 280 x 200 x 10 mm (l x w x t) plate
(+) 235 x 100 x 10 mm (h x w x t) angle
BR-02: 667 x 80 x 80 x 5 mm (l x w x h x t) SHS
(+) 280 x 200 x 10 mm (l x w x t) plate
(+) 130 x 100 x 10 mm (h x w x t) angle
BR-03: 667 x 80 x 80 x 5 mm (l x w x h x t) SHS
(+) 280 x 200 x 10 mm (l x w x t) plate
(+) 117 x 100 x 10 mm (h x w x t) angle
BR-04: 667 x 80 x 80 x 5 mm (l x w x h x t) SHS
(+) 280 x 200 x 10 mm (l x w x t) plate
(+) 130 x 100 x 10 mm (h x w x t) angle
BR-05: 200 x 140 x 105 x 12 mm (l x w x h x t) angle shaped
BR-06: 667 x 80 x 80 x 5 mm (l x w x h x t) SHS
(+) 280 x 200 x 10 mm (l x w x t) plate
(+) 130 x 100 x 10 mm (h x w x t) angle
(+) single mid bracket angle 100 x 10 mm (w x t)
Wall brackets are fixed to the concrete lintel using M16 x 115 mm anchor bolts.

Signed for ESL	Tomasz Kielbasa Certification Manager	23 September 2024 Date of issue	22 September 2027 Expiry date

Emirates Safety Laboratory (ESL)
240 Al Awir Road, Warsan 3, Mushraif, Dubai, United Arab Emirates
T: +971 4 520 1800, E: ask@eslglobal.com

Appendix to Certificate of Conformity

No: **ESL-24-11691** Issue: **01**

d. Cavity Insulation & Cavity Fire Barrier System:

i. A single layer of 50 mm thick insulation slab was installed on the entire exterior face of the block wall between the mild steel brackets. Insulation is made of a mineral wool slab/panel with aluminium facing on one side, with density - 64 kg/m³ & dimensions, 1200 x 600 x 50 mm (l x w x t) by Saudi Rockwool Factory (+) galvanized steel insulation fasteners ø 8 x 90 mm by TORW (+) 45 mm wide Aluminium Foil Joint tape by Milano.

ii. Cavity Fire Barrier System: Fixed horizontally & vertically, made of a pre-compressed non-combustible stone wool lamella core with aluminium foil on both faces, with density – 75 kg/m³ & dimensions, 512 x 120 mm (d x t) uncompressed) by Siderise Insulation Ltd. ref. CH 120/120 (+) Fixing brackets spaced according to manufacturer requirements, made of galvanized steel, 505 x 25 x 1 mm (l x w x t), by Siderise Insulation Ltd. ref. B355 (G) (+) ø 4.2 x 50 mm & ø 3.5 x 35 mm dry wall & self-drilling screws (+) 120 mm wide Aluminium foil tape, by Siderise Insulation Ltd. ref. RFT120.

e. Exterior Cladding System & Support Hardware:

i. 12 mm thick Glass Fibre Reinforced Concrete (GRC) Panels are produced in the factory according to the size and construction of the wall assembly. Panels comprise a Glass Fibre Reinforced Concrete (GRC) by Al Shafar GRC LLC, (12 mm thick) Panel. A hole of ø 14 x 35 mm, sufficient to receive a threaded rod M12 x 70 GI threaded rod with a nut as the means of fixing the GRC panel onto the brackets.

ii. Total of 12 nos. panels with a maximum dimension of 2935 x 1618 mm (h x w) and a minimum dimension of 2295 x 602 mm (h x w). The panels are fixed to the wall brackets by a threaded rod with nut M12 x 70, slotted in the bracket's slot and screwed in the GRC's ø 14 x 35 mm hole.

iii. Total gap = 612 mm between panel exterior face & base wall,
Total gap = 600 mm between panel interior face & base wall,
Total air cavity = 550 mm (max) between panel interior face and mineral wool insulation in the cavity.

f. Space between GRC panels:

GRC panels are spaced at a 10 to 12-mm gap vertically and horizontally and sealed with a 14 x 12 mm (w x h) silicone gasket pressure fitted at the joint gap between GRC panels (+) PVC shims – as applicable.

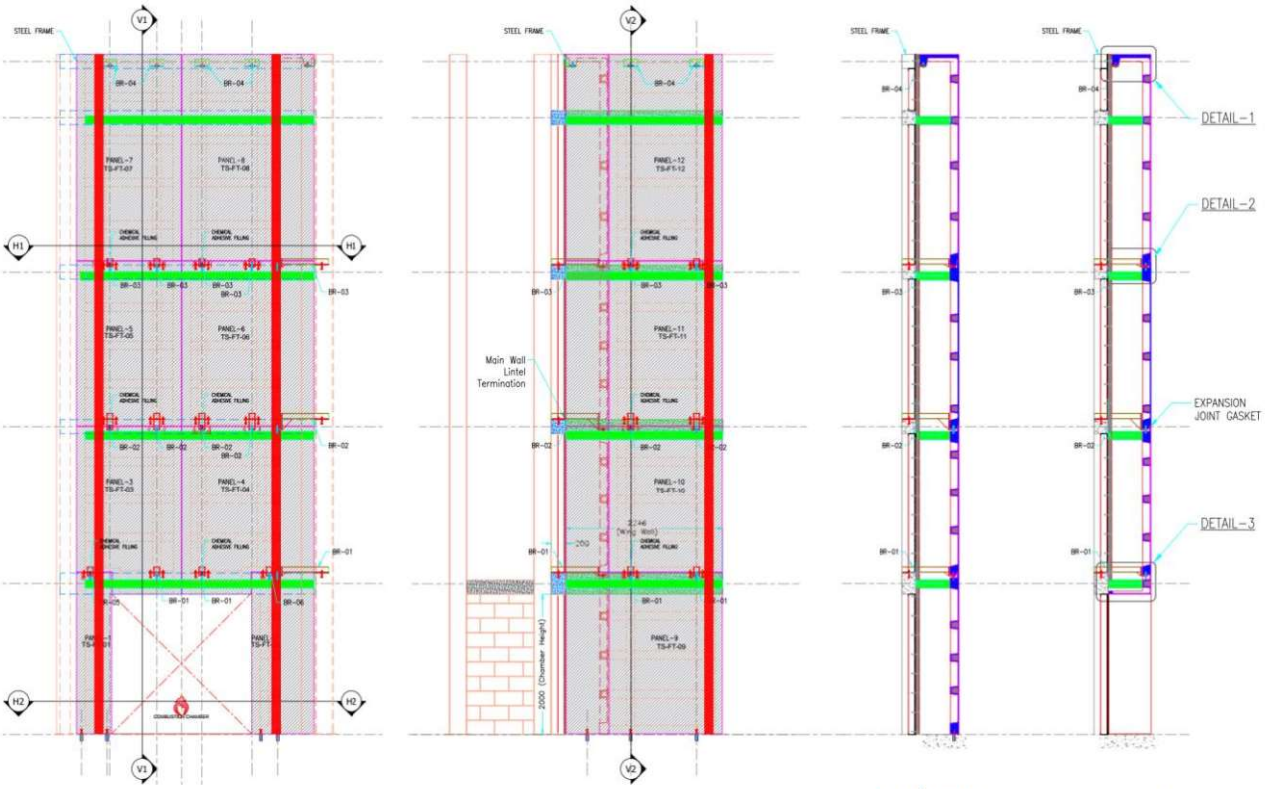
Signed for ESL	Tomasz Kielbasa Certification Manager	23 September 2024 Date of issue	22 September 2027 Expiry date

Emirates Safety Laboratory (ESL)
240 Al Awir Road, Warsan 3, Mushraif, Dubai, United Arab Emirates
T: +971 4 520 1800, E: ask@eslglobal.com

Appendix to Certificate of Conformity

No: **ESL-24-11691** Issue: **01**

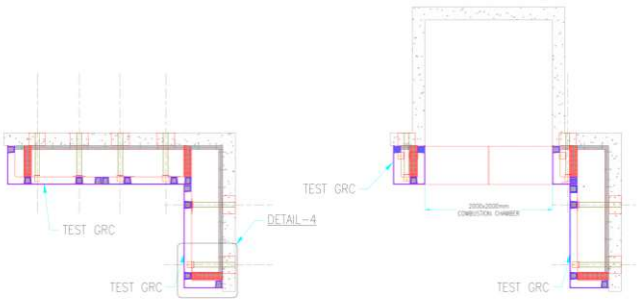
Exterior wall assembly-specific section details (see reference design no.):



Main & Wing Wall Elevation

Section V2 Wing wall

Section V1 Main wall



Section H1

Section H2

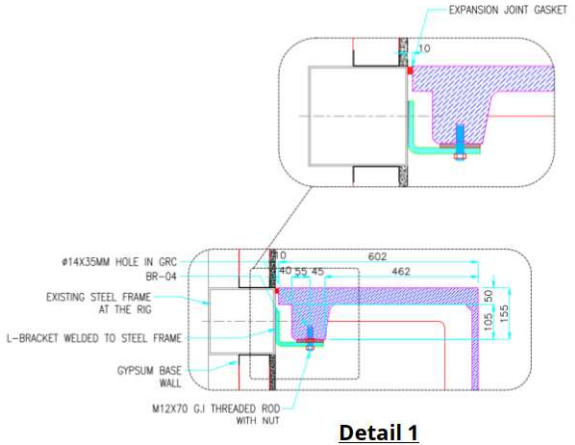
Signed for ESL	Tomasz Kielbasa Certification Manager	23 September 2024 Date of issue	22 September 2027 Expiry date

This Certificate remains valid till date stated above, unless suspended, withdrawn or terminated. This certificate will not be valid if the manufacturer makes any changes affecting product conformity, which have not been notified to, and agreed in writing with ESL. This Certificate is an electronic document and shall not be reproduced (in any form) except in full. Certificate holder is under an obligation to make references to issued certificate only in conjunction with product(s) that conform to evaluated product construction. Prior to use of this certificate, please verify its validity at ESL.directory

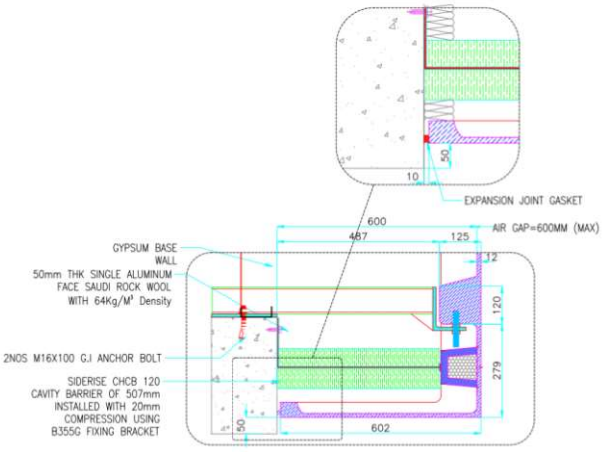
Emirates Safety Laboratory (ESL)
240 Al Awir Road, Warsan 3, Mushraif, Dubai, United Arab Emirates
T: +971 4 520 1800, E: ask@eslglobal.com

Appendix to Certificate of Conformity

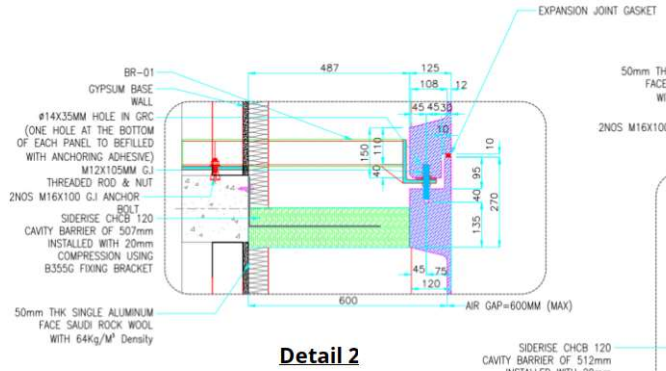
No: **ESL-24-11691** Issue: **01**



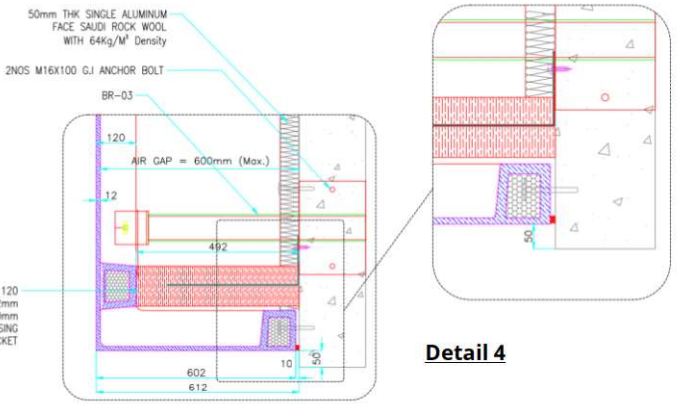
Detail 1



Detail 3



Detail 2



Detail 4

Signed for ESL	Tomasz Kielbasa Certification Manager	23 September 2024 Date of issue	22 September 2027 Expiry date

This Certificate remains valid till date stated above, unless suspended, withdrawn or terminated. This certificate will not be valid if the manufacturer makes any changes affecting product conformity, which have not been notified to, and agreed in writing with ESL. This Certificate is an electronic document and shall not be reproduced (in any form) except in full. Certificate holder is under an obligation to make references to issued certificate only in conjunction with product(s) that conform to evaluated product construction. Prior to use of this certificate, please verify its validity at ESL.directory

Emirates Safety Laboratory (ESL)
240 Al Awir Road, Warsan 3, Mushraif, Dubai, United Arab Emirates
T: +971 4 520 1800, E: ask@eslglobal.com

Appendix to Certificate of Conformity

No: **ESL-24-11691** Issue: **01**

Limitation of use:

1. This certification covers only those exterior wall assembly/system components specifications described in details of the exterior façade wall assembly/system in section 1 & section 2 above.
2. The application evaluation is limited only to the interchanging test results obtained from testing to BS 8414-2 to BS 8414-1, specific for the interchanging of the tested substrate with permissible alternatives following the rules set forth in clause 5.2 of BS 9414:2019.
3. This certification does not cover the fire resistance performance of the exterior wall assembly.
4. Actual construction referred to the system/assembly in this certificate shall conform to the design of the certified system/assembly.

Additional notes:

1. System/Assembly testing & certification in compliance with BS 8414-2, BS 8414-1 with BR 135 covers the evaluation of the performance of the exterior wall assembly and panels used as a component of the exterior wall assembly. It does not provide an evaluation of individual components (e.g. thermal insulation, cavity fire barriers, weather silicon as a joint sealant, etc.) incorporated within the wall assembly.

Signed for ESL	Tomasz Kielbasa Certification Manager	23 September 2024 Date of issue	22 September 2027 Expiry date

Emirates Safety Laboratory (ESL)
240 Al Awir Road, Warsan 3, Mushraif, Dubai, United Arab Emirates
T: +971 4 520 1800, E: ask@eslglobal.com