

CERTIFICATE OF PRODUCT COMPLIANCE

Certificate No. PC00002

ACES hereby attest under compliance with ISO 17065 that the listed product:

INSULATED ROCKWOOL SANDWICH PANEL (50mm and 75mm)

Assembled by:

KOYEE CONTAINER WORKSHOP

BIRKAT AL AWAMER LOGISTICS PARK

BUILDING 73, STREET 3004, ZONE 91

Doha – Qatar, PO Box 93720

Tel: 00974 4472 9161

Phone : 00974 7058 8099

Email: info@koyeecontainerqa.com

And Manufactured by:

FOSHAN DESUMAN BUILDING MATERIALS

TECHNOLOGY CO., LTD

BESIDE OLD 321 NATIONAL ROAD, MUTUAN VILLAGE

SHISHAN TOWN, NANHAI DISTRICT

FOSHAN CITY, GUANGDONG PROVINCE, CHINA

Email: dsm001@desuma.et

Have been assessed in accordance with the requirements of the
Technical Scheme denoted below and are approved for use
subject to the conditions appended hereto:

TECHNICAL SCHEME

ACES/SM/02

**BUILDING MATERIALS, PRODUCTS AND ASSEMBLIES SYSTEM
(INSULATED SANDWICH PANELS SYSTEM)**

Accordingly, ACES hereby authorize the above manufacturer
to affix the ACES Product Conformity Mark
on the above-mentioned product(s)


Eng. Ghaleb Al Zubi
Managing Director

Issued : 14-05-2023
Expiration: 13-05-2025



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This certificate attests all provisions concerning the evaluation of the performance under characteristics which are applied and the product(s) fulfil(s) all prescribed requirements set out in this certificate.

	ITT TEST REPORT	AUDIT REPORT	CERTIFICATE OF COMPLIANCE
Number:	TMQ23003315 TMQ23003316 TEQ23001333	QPCB004-F007/AR23-PCQ-002	PC00002
Date of issue	05-05-2023	09-05-2023	14-05-2023
Expiry date	ITT and Audit Report remains valid provided that the product, the relevant standards, and the production process remain unchanged until the next scheduled surveillance, which should be dated on or before 09/05/2024.		13-05-2025


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1. This approval is predicated on the product's demonstrated performance and its compliance with the technical declarations and assessment criteria specified in BS 476-20, BS 476-22, which were validated through prescribed testing procedures.
2. The certification of thermal insulation product(s) manufacture by Koyee Container Factory are approved on the basis of:
 - i) Initial type testing (under references shown in Page 2 of 6)
 - ii) Verification of Quality Management Systems to ISO 9001
 - iii) Audit testing as specified in ACES/SM/02
 - iv) Inspection and surveillance of factory production control
3. The approval relates to on-going production. The product and/or its immediate packaging is identified with the manufacturers' name, the product name or number, the ACES name or name and mark, together with the ACES certificate number and application where appropriate.
4. If there are additional or supplementary characteristic requirements that were not included in the certification's initial type testing (ITT), these characteristics will require separate evaluation to determine whether the product meets the enhanced product requirements.
5. For verification of the validity of this certificate, please contact ACES Certification Department.


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I. Fire Rating Performance:

The products have been tested based and according to the ACES/SM/02 Initial Type Testing requirements. The products were then assessed and met the requirements of the BS 476-20, BS 476-22 and technical data sheet declarations.

Product Name	Fire Resistance Rating	Report Reference
Insulated Rockwool Sandwich Panel (50mm)	61 minutes (Insulation) 62 minutes (Integrity)	TMR23005116
Insulated Rockwool Sandwich Panel (75mm)	73 minutes (Insulation) 75 minutes (Integrity)	TMR23005117

II. Important Note:

It is imperative to emphasize that the outcomes of this fire testing must be evaluated in parallel with the specifications stated in ACES/SM/02 and ISO 17065. These standards provide crucial guidelines and procedures that must be adhered to when assessing the fire performance of building materials, including insulated rockwool sandwich panels. While the fire test results are a crucial aspect of determining the panels' appropriateness for a specific application, it is essential to consider them within the wider context of these standards and any other relevant regulations or guidelines. Thus, this statement highlights the significance of reading and evaluating the fire testing results together with the relevant standards to ensure accurate and reliable conclusions.

III. Limitations:

1. The fire test results may not be representative of all possible installation configurations or usage scenarios for the insulated rockwool sandwich panels.
2. Other factors that could affect the panels' performance in a real-world fire situation, such as building layout, ventilation, or fire suppression systems, may not be fully accounted for in the testing.
3. Fire tests may only evaluate the panels' performance in isolation, without considering their interaction with other building materials, such as the cladding or structural elements. The actual fire performance of the building as a whole may be different from what is suggested by the individual panel test results.


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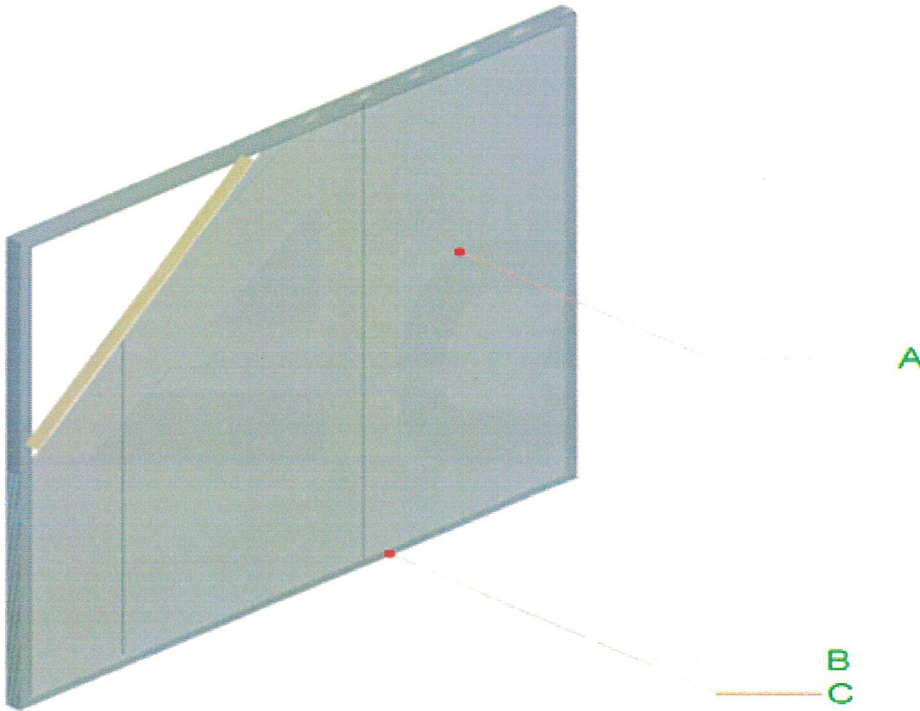
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CERTIFICATE No. PC00002 KOYEE CONTAINER WORKSHOP

4. Fire testing may not account for the effects of aging, weathering, or exposure to chemicals or pollutants on the panels' performance over time.
5. The fire testing standards and procedures used for insulated rockwool sandwich panels may not be uniform across different regions or jurisdictions, making it difficult to compare results or ensure consistent performance.

IV. Typical Partition Assembly Configuration:




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A. Sandwich Panel

Reference : 50/75 mm Rockwool Sandwich Panel pre-painted GI facing.
Manufacturer : Foshan Desuman Building Materials Technology Co.Ltd.
Panel Weight per Unit Area : 13.55 Kg/m²
Panel Width : 950/1150mm
Panel Thickness : 50/75 mm

Panel Component Details:

- Exterior Facing : 0.4mm thick Galvanized steel (GB/T12754-2019, GB/T13448-2019) with 25 microns (nominal) color coated.
- Internal Facing : 0.4mm thick Galvanized steel (GB/T12754-2019, GB/T13448-2019) with 25 microns (nominal) color coated.
- Core : Mineral Wool, Density: 100 kg/m³ (Nominal)
Reference: BBMG Saving Materials & Technology (Dachang) Co.,Ltd.
- Adhesive : Two-component solvent-free, Polyurethane Glue Adhesive (Tiajin Haosen Weiye Thermal Insulation Building Materials Co.,Ltd.)

B. Framing System:

Name : U Channel (End Cap)
Material : Cold Form Galvanized Steel
Dimension : 50mm (H) x 55mm (W) x 50mm (H) (U shape)
Thickness : 0.7mm
Grade : ASTM A653, Grade 50


C. Fixing Materials:

Fasteners

Description : Screws
Dimension : Ø 4.8x25.4mm
Fixing Details : Fixed along to the perimeter of the frame and the panel at every 300mm space centers.

Sealant

Description : Acrylic base sealant
Reference : CP 606
Manufacturer : Hilti
Application : Applied on the Gaps between the frame and panel


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V. Initial Type Testing (with reference to TMQ23003316/TEQ23001333)

50mm Insulated Rockwool Sandwich Panel Assembly Components

Rockwool

Compression Behavior at 10% Deformation	: 43.06 kPa
Apparent Density	: 100.2 kg/m ³
Short Term Water Absorption	: 0.25 kg/m ²
Dimension Stability	: $\Delta\epsilon_l = 0.017\%$ / $\Delta\epsilon_b = 0.013\%$ / $\Delta\epsilon_d = 0.046\%$
Water Vapor Transmission Rate	: 0.639 g/m ² .24h
Thickness	: 48.2 mm
Bending Strength	: 88.0 kPa
Shear Strength	: 27.9 kPa
Flatness	: $l = 0.13$ mm / $b = 0.12$ mm
Tensile Strength	: 102.95 kPa
Thermal Conductivity	: 0.0349 W/m.K
Moisture Absorption by Weight	: 0.9 %
Chemical Resistance	: Resistant

Galvanized Steel Plate

Coating Thickness	: 17 μ m
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Adhesive Glue

Viscosity at 25°C	: 136 KU
Pull-Off Strength	: 3.67 MPa
Appearance	: Light Yellow Liquid/Smooth/Free from Foreign Particles
Drying Time	: 1 hour 35 minutes


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75mm Insulated Rockwool Sandwich Panel Assembly Components

Rockwool

Compression Behavior at 10% Deformation	: 49.97 kPa
Apparent Density	: 100.5 kg/m ³
Short Term Water Absorption	: 0.25 kg/m ²
Dimension Stability	: $\Delta\epsilon_l = 0.013\%$ / $\Delta\epsilon_b = 0.017\%$ / $\Delta\epsilon_d = 0.036\%$
Water Vapor Transmission Rate	: 0.302 g/m ² .24h
Thickness	: 73.4 mm
Bending Strength	: 90.6 kPa
Shear Strength	: 22.7 kPa
Flatness	: $l = 0.11$ mm / $b = 0.17$ mm
Tensile Strength	: 102.34 kPa
Thermal Conductivity	: 0.0351 W/m.K
Moisture Absorption by Weight	: 0.8 %
Chemical Resistance	: Resistant

Galvanized Steel Plate

Coating Thickness	: 18 μ m
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Adhesive Glue

Viscosity at 25°C	: 136 KU
Pull-Off Strength	: 3.58 MPa
Appearance	: Light Yellow Liquid/Smooth/Free from Foreign Particles
Drying Time	: 1 hour 35 minutes


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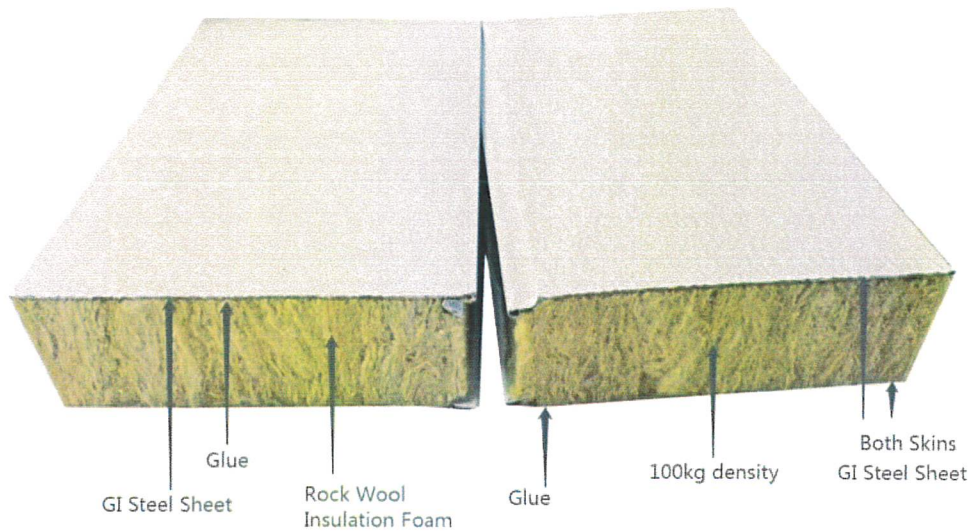


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VI. Illustrative Figure





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Further Information

Further information regarding the details contained in this data sheet may be obtained from:
KOYEE CONTAINER WORKSHOP
BIRKAT AL AWAMER LOGISTICS PARK, BUILDING 73, STREET 3004, ZONE 91, DOHA – QATAR,
Tel : 00974 4472 9161
Phone : 00974 7058 8099
Email : info@koyeecontainerqa.com

Further information regarding ACES and other approved products can be obtained from ACES by contacting the below details:

Tel: 00974 4487 0141
Website: www.aces-int.com


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