



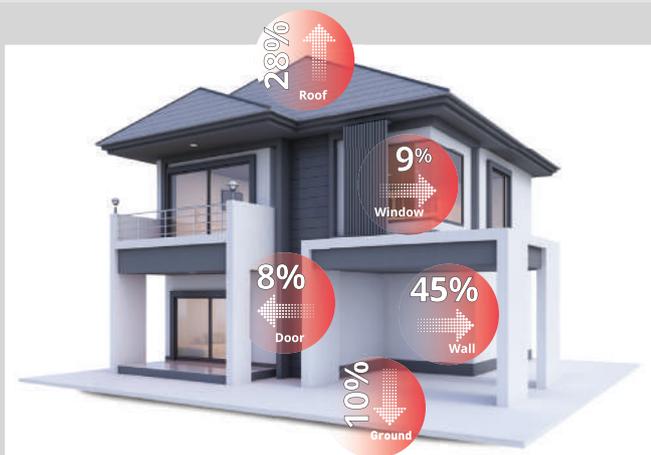
# PRODUCT GUIDE

# ABOUT US

Smart Insulation Finishing Systems (SIFS) is a high-tech manufacturing company (a part of Greentech group) located in Umm Al Quwain (UAQ) in United Arab Emirates which was established in 2016. We manufacture innovative products to address the energy leak issues through the building envelope- walls, roof and windows. We also provide a wide range of durable and proven waterproofing and repair solutions which can be used for both new and existing buildings. Our team at SIFS are a group of experienced industry professionals who are experts in the insulation and waterproofing field for the past 30 years.



## Why Building Envelope



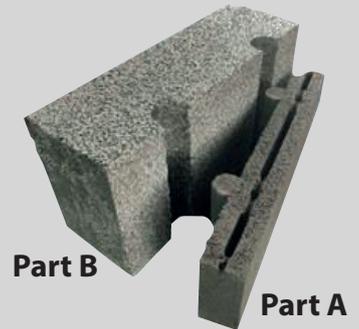
Building's envelope, especially walls, contributes to as much as 45% of the energy required in buildings. Good thermal insulation for the envelope is crucial to prevent heat from seeping in through the exterior of the building. In the Middle East particularly when a lot of energy is consumed for cooling of buildings, the use of good insulation can be very beneficial as it keeps cool air sealed within the buildings.

**TYPICAL ENERGY LOSSES FROM A HOUSE WITHOUT PROPER INSULATION**

# OUR PRODUCTS

## 1. SMART WALL MASONRY PANEL

A unique composite wall insulation system comprising two parts which interlocks together to form the masonry wall (Non load bearing) of a building envelope. Part A is an uninsulated high-density masonry unit which forms the interior side of the wall whereas Part B is low density lightweight thermally insulated masonry unit which forms the exterior side of the wall. Part A and Part B is bonded together using special grout. It is primarily used as an insulation system for external walls. Column and beam areas will be covered using Smart Wall Panel boards.



NON-COMBUSTIBLE



MOISTURE CONTROL



ACOUSTIC  
INSULATION



HIGH THERMAL  
INSULATION



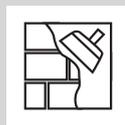
HIGH IMPACT  
RESISTANCE



LIGHT WEIGHT



EASY  
INSTALLATION &  
MAINTENANCE

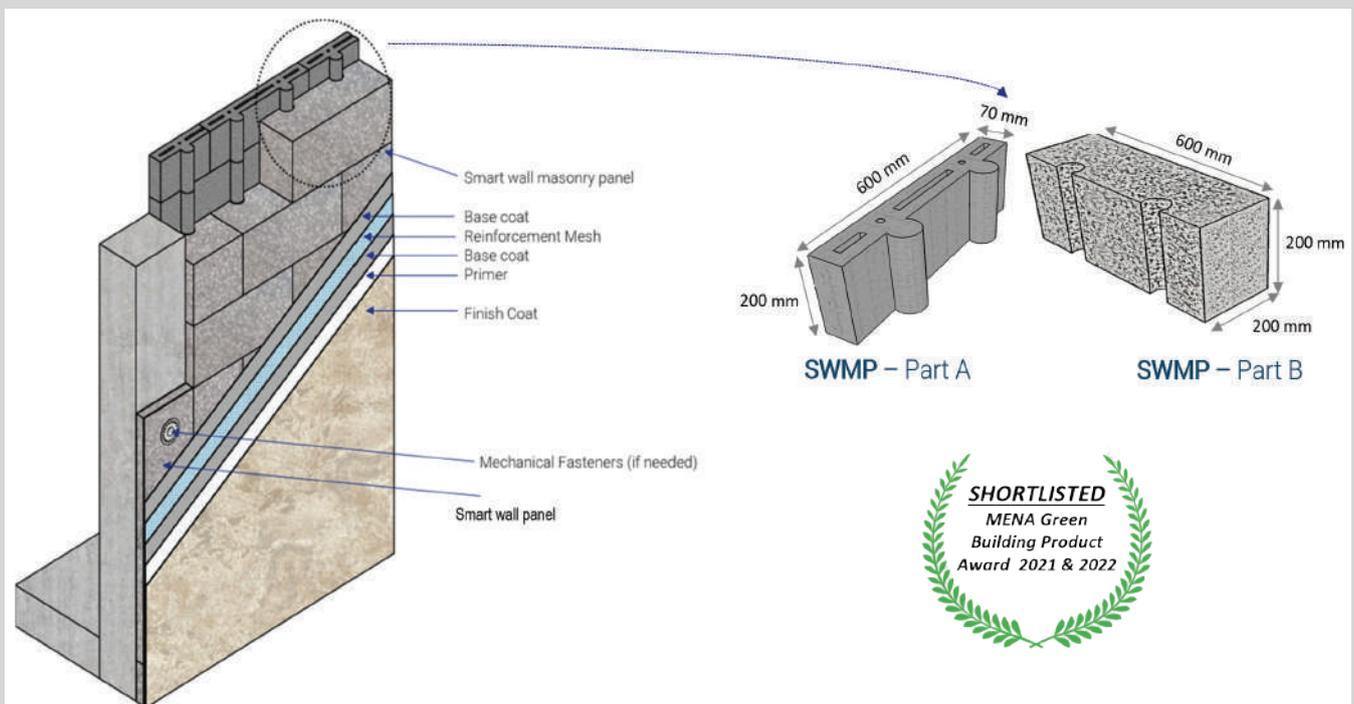


EXTERIOR FINISHES CAN  
INCLUDE DECORATIVE  
RENDER OR STONE  
FINISHES



ENVIRONMENTAL  
PRODUCT  
DECLARATION  
(EPD) AVAILABLE

## SMART WALL MASONRY PANEL SYSTEM



The product described is protected via various intellectual property including patent/design/copyright and trademark. We, as the intellectual right holder of the technology, design and of the product, reserve our rights to take legal action against any third party who is using, distributing, manufacturing and/or selling the product without our express permission.

# SIFS has been Through Comprehensive Testing and Certifications

## TECHNICAL INFORMATION AND TESTING RESULT

Properties	Test Method	Test Results
Density (Part A)	ASTM D 1622	2100 -2400 Kg/m <sup>3</sup>
Density (Part B)	ASTM D 1622	160 -200 Kg/m <sup>3</sup>
Thermal Conductivity (Part A)	ASTM C 518	0.06 W/m.K
Thermal Conductivity (Part B)	ASTM C 518	1.1 W/m.K
Service Temperature	-	-20 °C to 100 °C
Flame Spread Index (FSI)	ASTM E84/ UL 723	0 - Class A
Smoke Developed Index (SDI)	ASTM E84/ UL 723	5 - Class A
Fire Classification	EN 13501-1	Class A2-s1,d0

Smart Wall Masonry Panel Insulation System - U Values			
SWMP Part B Thickness (mm)	Used at External Masonry Wall Area (W/m <sup>2</sup> K)	Used at External Columns/Beams/Slabs (W/m <sup>2</sup> K) (Using Smart Wall Panel - B)	External Columns/Beams/Slabs (W/m <sup>2</sup> K) (Using Smart Wall Panel - F)
200	0.28	0.69 (Using 70mm panel)	0.49 (Using 55mm panel)
300	0.20	0.32 (Using 170mm panel)	0.26 (Using 110mm panel)

(customized thickness for Part B also possible to meet lower U-value requirements)

Product Advantages	Product Features
<ul style="list-style-type: none"> <li>→ Excellent thermal insulation (U Value for 270 mm thickness - 0.28 W/m<sup>2</sup>K) (U Value for 370 mm thickness - 0.20 W/m<sup>2</sup>K)</li> <li>→ Lightweight construction reducing overall structural load</li> <li>→ Quick and Easy Installation Faster Construction – EIFS + Masonry together (30% Faster)</li> <li>→ Tested and certified by Thomas Bell-Wright international consultants               <ul style="list-style-type: none"> <li>• ASTM E 84 Class A</li> <li>• NFPA 285 pass</li> <li>• NFPA 268 pass</li> <li>• EN 13501-1: Class A2-s1, d0</li> <li>• ASTM E 119</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>→ Good impact resistance</li> <li>→ Durability &amp; serviceability (Long-period manufacturer warranty)</li> <li>→ Energy Saving - upto 45% electricity bill reduction</li> <li>→ Quality Finish in variety of texture and renders available.</li> <li>→ Environmental Product Declaration (EPDs) available</li> </ul>

# OUR PRODUCTS

## 2. SMART WALL PANEL

Smart Wall Panel is a rigid board insulation used as an insulation core in EIFS system (external wall). It can be used for external walls, columns, beams and slabs. Two types of boards are available SWP-F and SWMP-B. These boards can be used in new construction projects or as a retrofit solution for existing buildings.

SWP - F is an energy efficient rigid foam insulation panel made through Reaction Injection Moulding (RIM) process which comprises a non-combustible insulation core sandwiched between two lightweight facer boards. SWMP-B is a unique composite wall insulation material comprising a low density lightweight thermally insulated panel.

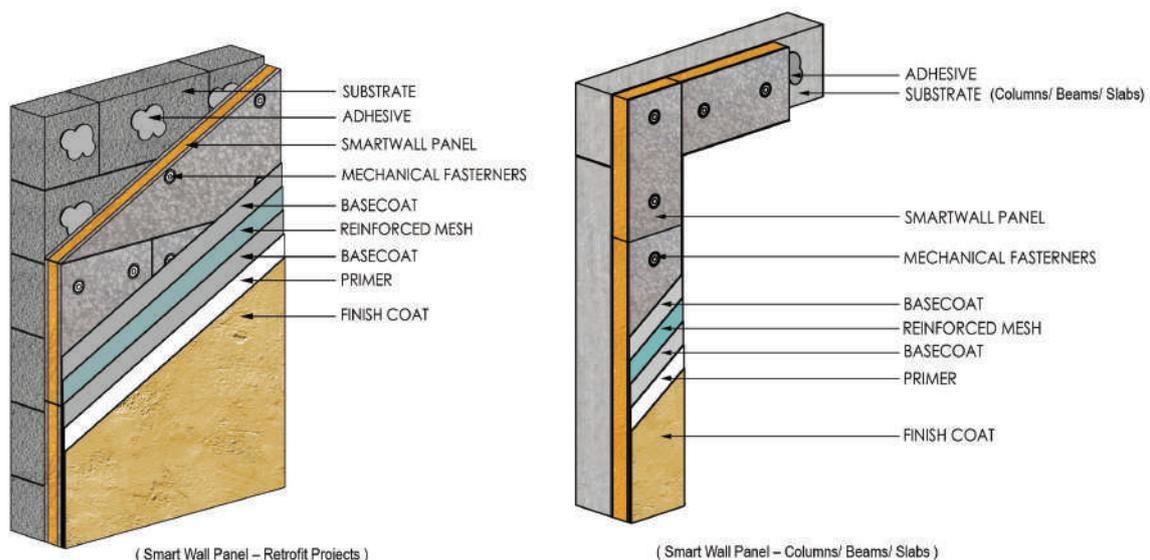


SWP - F



SWMP - B

## SMART WALL PANEL SYSTEM



Smart Wall Masonry Panel Insulation Systems - U Value	
Smart Wall Panel (SWMP - B) (mm)	Used at External Masonry Wall Area/Columns/Beams/Slabs (W/m <sup>2</sup> .K)
70	0.69
100	0.52
170	0.32
200	0.27
Smart Wall Panel (SW - F) (mm)	Used at External Masonry Wall Area/Columns/Beams/Slabs (W/m <sup>2</sup> .K)
55	0.50
110	0.26

#### FEATURES AND BENEFITS:

- Used for new buildings and retrofits.
- Flame spread of <25 as per ASTM E84 / (Class A).
- Smart Wall Panels offer very low thermal conductance.
- Smart Wall Panels are light weight and can be easily cut with a knife or saw.
- Installs quickly and easily with mechanical or adhesive attachment.
- Provides continuous exterior insulation in the following applications: commercial, residential, industrial and pre-cast buildings.

#### LIMITATIONS:

- Smart Wall Panels are non-load bearing.
- Smart Wall Panel is not a structural sheathing, always follow local codes for structural bracing.
- Smart Wall Panels must not be used as a nailing base for any other product.

#### DELIVERY & PACKING

- Delivered in pallets and standard pallet consists of 40 - 50 panels.

#### SIZE AND TECHNICAL DATA

- Panel Dimensions – 1000 mm (L) x 600 mm (B) with variable thickness as shown in the table above.

### 3. SMART WALL MASONRY

At SIFS we are always pushing the boundaries to give products with lower U-values at affordable price

**Our latest solution for building external walls will be available soon..**

- U Value 0.16 w/m<sup>2</sup>K
- Faster application
- Fire rated
- Environmental - friendly
- 10-years warranty

**Our Most Affordable Solution!**

**Launching JAN 2025!**

	400 x 200 x 200	400 x 200 x 200
Height of the unit (mm)	200	200
Unit length (mm)	400	400
Weight (kg)	1.2	1.2
Thermal conductivity of block (W/mK)	0.16	0.16
Number of units per m <sup>2</sup>	12.5	12.5
Avg compressive strength (N/mm <sup>2</sup> )	1.5	1.5

# CASE STUDY

In Jan 2024, SIFS completed an office building in Jebel Ali Industrial first. Designed as “**Net-Zero-Energy**” but 6 months data collected shows building on its way to become Net-Positive-Energy building with predicted consumption (EUI) of 70 kwh/m<sup>2</sup>/year which will be offset easily with a 33 kw Solar PV system.



INNOTECH POLYMERS - SIFS Envelope Improvement Case study - Net Zero Construction Costs			
Supply & Installation - Capital costs	Standard Green Building Construction (original design)		SIFS Envelope Design (upgraded design)
1 Building Structural	AED	2,000,000	AED 2,000,000
2 Wall Insulation	AED	185,152	AED 246,400
3 Roof insulation	AED	29,300	AED 43,950
4 Windows	AED	37,995	AED 43,350
5 Air conditioning	AED	66,389	AED 70,815
<b>Total Construction</b>	<b>AED</b>	<b>2,318,836</b>	<b>AED 2,404,515</b>
<b>Solar PV System</b>	<b>AED</b>	<b>320,284</b>	<b>AED 170,000</b>
<b>Total Capital Investment</b>	<b>AED</b>	<b>2,639,120</b>	<b>AED 2,574,515</b>

*Notes:*  
Electricity Tariff - AED 0.35/ kwh ;  
AC load calculations based on HAP analysis  
U VALUE - thermal insulation performance

A financial analysis comparing the client's original design with the upgraded SIFS design demonstrated that prioritizing passive energy-saving strategies resulted in a lower overall cost for constructing a net-zero-energy building. Real-time monitoring systems have been implemented and for more insights, refer to live data from the building recorded since March 1st 2024 here: <https://sifs.me/-case-studies>.



# SOME OF OUR PROJECTS



University Building



Al Sahel Resort



Container Home Project



Commercial Office

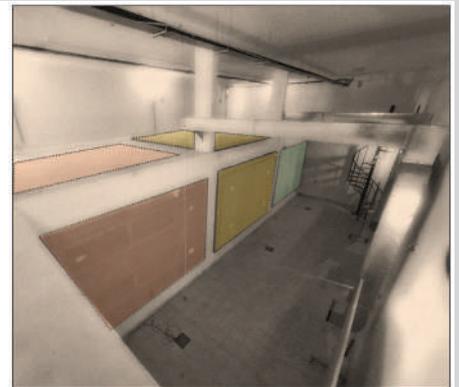


Net Zero Energy Office - Jebel Ali

# RESEARCH & DEVELOPMENT



A large scale climatic chamber for comparative study of building envelope insulation systems and its impact on heat transfer and energy consumption



Net-Zero Energy House

SIFS Test House Research is an ongoing proof of concept project wherein SIFS envelope products are tested and air conditioning load is analysed. The building is installed with state-of-the-art monitoring equipment and the data is used to verify real-time savings and advantages of using some of our technologies. Currently the "test house" is run on solar air-conditioning and its undergoing a challenge which is to run this house completely on Solar PV without relying on electricity from the utility company.



## CONTACT US

 : +971 670 64333

 : [www.sifs.me](http://www.sifs.me)

 OFFICE : Jebel Ali Industrial 1st,  
Dubai, UAE  
PO BOX :125392

 FACTORY: New industrial area, Umm al  
thoub, Umm al quwain, UAE,  
PO BOX : 3350

