Shinwoong Safety Board

Excellent Performance for US Construction Projects

A Comparative Analysis of:

Shinwoong Safety Board, Tile Panel and Stone Honeycomb Panel

September 2025

Prepared for:



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Miracle in Malibu

'Owner of 'miracle' Malibu mansion reveals why he thinks house survived raging fire' (Jan. 10, 2025 / New York Post)



"It's stucco and stone with a fireproof roof," he said, adding that it also includes pilings "like 50 feet into the bedrock" to keep it steady when powerful waves crash into the seawall below it.

https://nypost.com/2025/01/10/us-news/owner-of-miracle-malibu-mansion-reveals-why-he-thinks-house-survived-raging-fire/?utm_source=chatgpt.com

'This is not a matter of miracles; it's a matter of preparation'



Critical Issues

Safety hazards, fire risks, and durability concerns plague construction sites.



Limited Solutions

Most of the boards currently available in the U.S. building materials market are made from cheap raw materials, which not only burn easily in a large fire, but also emit tons of toxins when they burn.



Statistical Evidence

In the United States, a significant proportion of fire-related fatalities are caused by toxic gas inhalation. According to data from the U.S. Fire Administration (USFA), approximately 430 deaths and over 20,000 injuries occur annually due to carbon monoxide poisoning.



Executive Summary

Shinwoong Safety Board delivers **superior performance** and **cost efficiency** compared to traditional Tile and Stone Panels, making it the optimal choice for modern construction projects.



Significant Cost Savings

Installation costs **up to 93% lower** than competitors (\$1.30/sq.ft vs \$18.60-\$30.00/sq.ft), with base material costs starting at \$3.13/sq.ft



Easy Installation

Rapid installation without specialized skills. Both dry and wet installations are possible, reducing labor time and complexity



Superior Safety Features

Perfect **non-combustibility, antimicrobial** properties, and impact resistance make it ideal for healthcare, education, and public facilities, with no emissions of harmful substances



Long-Term Value

Minimal maintenance requirements with **20-year guarantee**. Superior resistance to moisture, stains and typical wear factors

Total Cost Comparison (225 sq.ft installation)

- Comparable to a medium-sized meeting room accommodating 8–12 people

\$4,185

Tile Panel

\$6,750

Stone Panel

\$1,825

Shinwoong Safety Board



Overview & Technical Specifications (1)

	Manufacturer	Shinwoong Safety Board	Tile Panel	Stone Panel
E	Country of Origin	South Korea	Italy (also includes Made in USA options)	USA
	Usage	Interior & exterior finishing board, / Wall, and ceiling Panel	Interior & exterior walls & floors, showers, fireplaces, countertops	Interior & exterior stone cladding / finishing wall panels
ڮڎ	Material	A composite of magnesium oxide, perlite, and a patented chemical compound	Glazed ceramic or porcelain	Natural stone veneer bonded to aluminum honeycomb with epoxy
%	Surface Finish	UV-cured coating applied to the surface Polished and honed options		Natural stone face: Polished, Honed, Flamed, Sandblasted, Grooved
	Application Areas	(1) Commercial and residential high-end buildings (2) Public facilities such as Schools, Hospitals, Nursing homes	Backsplash, bathroom, indoor, porch, outdoor walls; residential & commercial floors/walls	(1) Commercial structures (facades, interior walls) and high-end residences (2) Public facilities such as hospitals, airports, hotel



	Manufacturer	Shinwoong Safety Board	Tile Panel	Stone Panel
<u>↑</u>	Size	Thickness: 1/4 inch (6.0 mm) Width: 48 inch (1220 mm) Length: 96 inch (2440 mm)	Thickness: 1/4 inch (6.0 mm) Width: 60 inch (1520 mm) Length: 120 inch (3040 mm)	Thickness: 5/16 inch (8 mm) Width: 48 inch (1220 mm) Length: 96 inch (2440 mm)
ف آف	Weight	22.0 kg per sheet (4 x 8 feet)	22.7 kg per sheet (5 x 10 feet)	47.5 kg per sheet (4 x 8 feet)
↓ F	Flexural Load at Break	309 N (±220 N indicates sufficient strength)	ASTM C1505 or B-355 N/mm² (ISO 10545-4) Not stated by vendor for this collection	14,245 N
	Bulk Density	1,192 kg/m³ Excellent strength, impact mechanics	2300-2400 kg/m³ (For porcelain tiles; varies slightly for natural stone models)	N/A (Vendor does not state a single bulk density)

Additional Features (Shinwoong Safety Board)

★ Superior Bonding Strength

2.7 N/mm² Exceptional adhesion, far above standard

1 Enhanced Thermal Performance

Lower thermal conductivity (0.138 W/m·K) providing superior insulation

Fire Safety

Perfect non-combustibility, ideal for public facilities and high-rise buildings

Shinwoong Safety Board provides **superior performance** and **exceptional long-term value**, with a balanced profile of durability, safety, and eco-friendly features that **significantly reduces total project costs** compared to competitors

Installation Cost Comparison (per sq.ft)



Shinwoong Safety Board has installation costs at 1/14 of tile and 1/23 of stone panel

Total Cost for 225 sq.ft Project (conference room for 8 ~ 12 people)



Product Price Range (per sq.ft, DIY (installation not included))



Shinwoong Safety Board offers the most economical material cost among all product lines

Long-term Value Analysis



20 Year Total Cost of Ownership				
Shinwoong	Tile Panel	Stone		
\$2,325	\$9,170	\$14,500		
A total cost reduction of up to 84% , including replacements				

^{**} Note: All pricing and cost figures shown are for illustrative purposes only, based on market-average estimates. Actual product pricing and maintenance costs may vary by brand and project specifications. Figures for Shinwoong Safety Board are provided as samples and are not legally binding; please contact us for official quotations and detailed cost information.

Maintenance & Additional Factors

% Shinwoong Safety Board

- · Very easy to maintain
- · Resistant to moisture & stains
- · No special cleaning needed

20-year warranty

X Tile Panel

- · Low maintenance
- · Clean with neutral cleaner
- · May crack requiring replacement

1–10-year typical warranty

X Stone Honeycomb Panel

- · Higher maintenance
- · Vulnerable to impact damage
- Special cleaning may be required5-year limited warranty



Shinwoong Safety Board Cost Advantage

With installation costs **up to 93% lower** than competitors and minimal maintenance requirements over its **20-year warranty** period, Shinwoong Safety Board delivers exceptional long-term value and significant cost savings for commercial and residential projects.`

Performance Metrics Comparison



Key Performance Advantages

Superior Structural Strength
Flexural Load at Break: 309 N (>>220 N indicates sufficient strength)

Excellent Thermal Insulation
Thermal conductivity: 0.128 W/m·K (Lower than average range)

High Fire Safety
Rated for spaces with the highest fire safety standards

Technical Performance Specifications

Performance Parameter	Shinwoong Safety Board	Tile Panel Stone Honeycomb Panel	
Flexural Load at Break	309 N (>>220 N)	R ≥ 1200 N or ≥ 35 N/mm ²	14,245 N
Bulk Density	1,192 kg/m³ (excellent strength)	2000-2400 kg/m ³	N/A
Bonding Strength	2-3 N/mm² (excellent adhesion)	≥1 N/mm²	1.9 N/mm²
Thermal Conductivity	0.128 W/m·K (superior insulation)	1.0-2.30 W/m·K	0.09 W/m·K
Length Change Rate	0.1% (excellent dimension stability)	(1) <0.06% (2) <0.06%	0.05%
Water Absorption	9.0% (good moisture stability)	0-0.5%	Passed 120-day water resistance test
Non-Combustibility	****	***	***

Shinwoong Safety Board delivers unmatched performance, combining superior fire safety, durability, and eco-friendly features for a safer, more sustainable environment.

Shinwoong Exclusive Features

- > Excellent antimicrobial properties (R ≥ 2.0)
- > Tested for excellent weathering resistance with UV functionality
- Ideal for high-fire safety environments like hospitals, schools
- > Excellent sound insulation performance

1 Tile Panel Features

- > High breaking strength for porcelain tiles
- Class A fire resistance rating
- Good for backplash, bathroom, indoor applications
- > Some LEED/EPD certified options available

Stone Honeycomb Features

- High flexural strength due to honeycomb structure
- > Good thermal insulation properties
- > Up to 60% recycled aluminum content
- > Class A fire rating per NFPA standards

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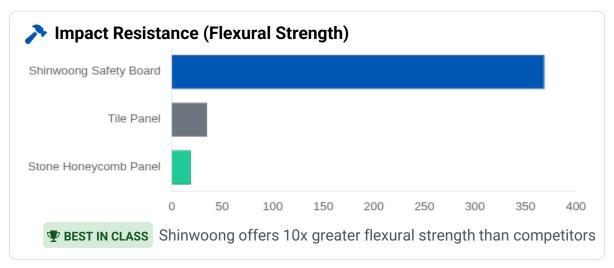
Shinwoong Safety Board Performance Advantage

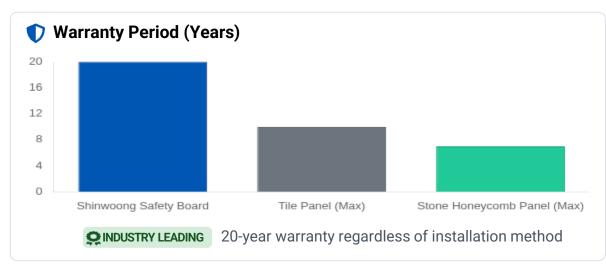
Shinwoong Safety Board delivers **exceptional strength, thermal insulation, fire safety, and antimicrobial properties** while maintaining excellent durability. Its balanced performance across all critical metrics makes it ideal for **high-standard commercial and residential applications** where safety and reliability are paramount.

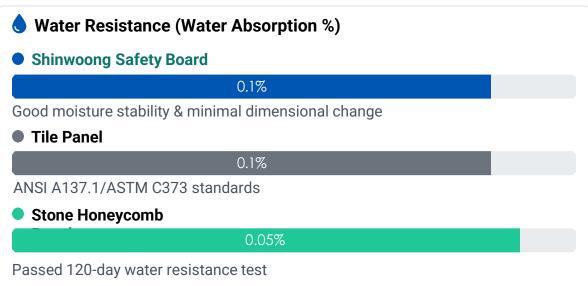
SHINWOONG

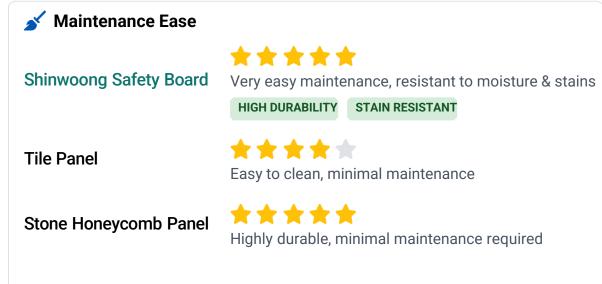
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Shinwoong Safety Board delivers unmatched durability, water resistance, and easy care — backed by a leading 20-year warranty.









Application Areas



Commercial Facilities

High-traffic areas requiring durability and low maintenance









Healthcare Facilities

Antimicrobial properties and high safety



Tile Panel



Educational Institutions

Durable surfaces for high-traffic areas with safety requirements







Residential Projects

Interior and exterior finishes for walls, floors, and specialty areas







Installation Methods

Shinwoong Versatile Installation

- Both dry and wet installation methods
- Simple with standard tools
- No specialized skills required
- Suitable for rapid construction
- White birch options for visible surfaces

Tile Panel Complex Installation

- Requires skilled professionals
- Needs **specialty tools** and materials
- Additional substrate preparation
- Extended installation timeframe
- Precision cuts require special equipment

Stone Complex Mounting

- Multiple attachment methods
- Requires engineered mounting systems
- Needs professional installation
- Specialized stone-cutting equipment
- More complicated corner and edge details

Strategic US Market Opportunities

Healthcare Facilities

A Educational Institutions

Commercial Real Estate Industrial Facilities

Hospitality Industry

Industrial Facilities

₩ Wet Areas & High-Moisture Environments

♠ Residential Construction

Economic Leadership

93% lower installation costs and lower material costs directly address US market's priority on cost efficiency while maintaining quality

Construction Speed

Rapid installation methods reduce project timelines—critical advantage in labor-constrained US construction market

Sustainability Credentials

Low VOC emissions and excellent weathering resistance support LEED certification goals in US green building projects Sustainable Fire-Resistant Solutions

Exceeds US fire safety standards (Class A) and antimicrobial requirements for healthcare facilities, hospitals, and public spaces

🗙 Application Versatility

+90 patterns and customizable options align with US design trends demanding aesthetic flexibility with technical performance

🔀 Minimal Maintenance

Surface is durable and resistant to moisture, stains, and impact -addressing US facility managers' focus on reducing lifecycle costs

20 Years

Warranty Period (vs. typical 1-10 years for competitors)

93%

Installation Cost Savings (vs. Stone Honeycomb Panel) 70%

Total Project Cost Savings (5-year total ownership cost)

Shinwoong Safety Board delivers exceptional value through **superior performance**, **cost-effectiveness**, **and versatility** - making it the smart choice for modern US construction projects



Unmatched Cost Efficiency

Up to 93% lower installation costs, significant material cost savings, and minimal maintenance expenses over the product lifecycle



Superior Technical Performance

Excellent strength-to-weight ratio, fire safety ratings, and antimicrobial properties exceeding industry standards



Fast & Flexible Installation

Simple installation methods requiring minimal specialized skills, suitable for both new construction and retrofit projects



Long-Term Reliability

20-year warranty and proven durability in demanding environments, backed by rigorous technical testing

Take the Next Step

Our team is ready to answer your questions about Shinwoong Safety Board and help you find the perfect solution for your construction needs.



Phone

+1 (864) 416-1497



Email

contact@shinwoong-usa.com



Address

53 Red Horse Way, Greer, SC 29651



Website

www.shinwoong-usa.com

Request a Quote

Sample boards available upon request



Industry-Leading Coverage



Shinwoong Safety Board's versatile, high-performance features, including advanced fire resistance and superior structural integrity, meet the unique requirements of diverse applications, from healthcare to high-rise buildings.

Versatile Applications

Shinwoong Safety Board delivers exceptional performance across diverse building environments, meeting the specific requirements of various facility types.

Key Application Areas:

Healthcare Facilities



Educational Institutions



High-Rise Buildings



Premium Commercial



Healthcare Facilities



Antimicrobial properties and superior fire safety for patient safety and regulatory compliance.



Educational Institutions

Eco-friendly composition with low VOC for healthier learning environments and longevity.

High-Rise Buildings



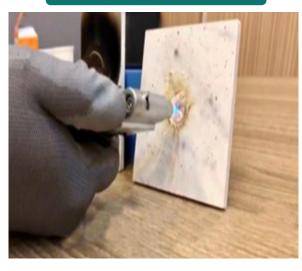
Advanced fire resistance and structural integrity for enhanced safety in tall structures.



Premium Commercial Spaces

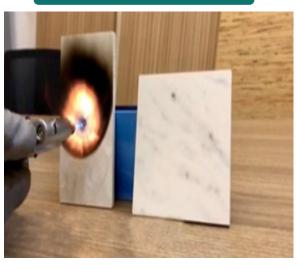
Rapid installation, superior finish quality, and reduced maintenance costs for business continuity.

Shinwoong



- Direct transfer printing technology (semipermanent product)
- No toxic gas emitted in case of fire
- Eco-friendly product with **no** toxic substances.
- Registered **PCT patents** in South Korea.

Company A and B



- Adhesives are used to attach the design to the board.
- Toxic gases are generated during a fire, increasing the risk to human life.
- Detection of various harmful substances.
- Over time, the design film detaches from the board.

By Korea Testing & Research Institute

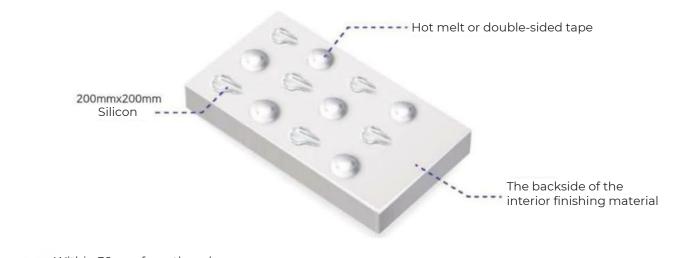
TEST ITEM	Shinwoong Safety Board	Company A	Company B	Unit
Volatile Organic Compounds	0 (none)	0.30	0.31	g/L
Radon Emissions (7 days)	16.5	198	168	Bq/m3
Tensile Strength	7.0	4.0	5.0	Мра
Density	1.3	0.7	0.8	Gm/L
Percussion	5.7	2.0	3.0	Kj/m2
Non-Combustibility	Complete Non-Combustible	Semi-Non-Combustible	Semi-Non-Combustible	K

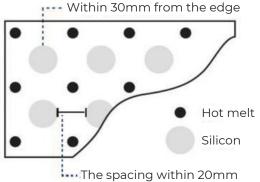
Shinwoong Safety Board offers easier and faster installation, **reducing labor costs by approximately 30%**, while allowing site-specific customization for superior interior aesthetics.

Standard Wall

When installing a decorative or tiled surface, adhesive materials (hot melt and silicone) should be evenly applied to the back of the panel at 200 x 200mm intervals.

Before curing, ensure that the hot melt (glue gun) is pressed firmly and quickly with appropriate pressure







Press with appropriate pressure

With no special tools or skills required, our panels can be easily installed and adapted to a wide range of architectural environments.

Installation



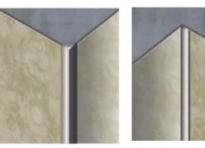
Step1. Frame Installation
Frame installation on the wall



Step3. INJ Board Installation
Fix the board on the gypsum board
using double-sided tape and silicone
(staple gun available)



Step2. Gypsum Board Installation
Installation on the frame

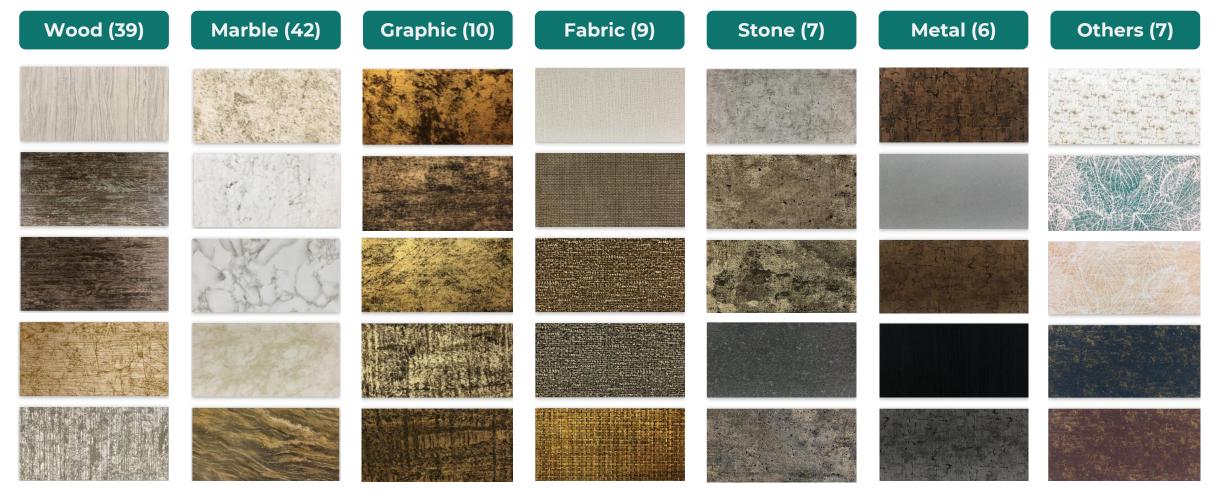


Out-corner finishes In-corner finishes

Step4. Finishes Installation(Option)
Installation of finishing materials
according to the structure of the
installation spot



Beyond superior functionality, safety, and eco-friendliness, Shinwoong Safety Board offers **120 premium designs** that elevate the value of every space with sophisticated style - and can also be **custom-produced** to meet your unique needs.



^{**} This design is a sample. Please refer to our website (http://shinwoongnht.com/kr/design/design.php?B=2) for all designs by category.



Product Details

- 47.2 x 94.4 inch (1.2 x 2.4 meter)
- Thickness: 9.0 mm
- 20 kg per piece
- ** Customizable cutting and processing available during installation



Test Results

Exceptional performance in the tests:

- Non-Combustibility
- Heavy Metal Emission Test
- Water Absorption
- Thermal Conductivity
- Impact Resistance
- Antifungal



Certifications

- · Certificate of Eco-Label
- · Certified for Non-Combustibility
- Certified for Non-Detection of Seven
 Major Heavy Metals
- ISO 9001
- And Multiple Patents











^{**} These test reports and certifications are samples. Please visit our website (http://shinwoongnht.com/en/certification/certification01.html) for more.

