Wedge India

Prefabricated Building Construction

RESIDENTIAL

- COTTAGE
- RESORT
- FARM HOUSE
- VILLA
- STUDIO
- ROOF TOP HOUSE

COMMERCIAL

- SCHOOL
- HEALTH CENTER
- HOSPITAL
- SHOPPING CENTER
- COLD STORAGE
- WAREHOUSE

Aspect	Conventional Masonry House	Prefabricated Insulated House
Construction Time	Longer construction period, several months to over a year.	Shorter construction period, completed in weeks to a few months.
Cost	Higher costs due to labor, materials, and extended construction period.	More cost-effective due to reduced labor costs and quicker construction,
Energy Efficiency	Requires additional insulation for high energy efficiency.	Designed with energy efficiency in mind, better at maintaining interior temperatures.
Durability	Known for durability and long lifespan, withstands harsh conditions.	Durable can match longevity of masonry homes good quality building panels materials used.
Environmental Impact	Higher environmental impact due to materials and longer construction.	Lower environmental impact, controlled factory construction leads to less waste.
Design Flexibility	Greater flexibility in design, allows for custom layouts.	Growing design options, customizable but somewhat limited.
Resale Value	Typically holds its value well over time.	Higher Resale value, improving with growing acceptance of prefabricated homes
Maintenance Cost	Requires regular maintenance, especially for vulnerable materials.	Requires much lower maintenance due to modern materials.
Heat / Cold Insulation	Very low and in extreme climates heating or cooling cost is very high	Made of pre-insulated designed to perform with almost zero heating or cooling cost.


Wedge

Wedge | Cost of Insulated Prefab House

- Erection of the houses are easy and fast. A 100 square meter house can be built in 2-3 weeks.
- No need Crane for erection
- Our house packages include all materials. You only need to prepare concrete foundation for the house.
- We can produce and make the shipment of the house within 3 or 4 weeks.
- You can send us your plan or you can tell us what you want. Then we can draw the plan.
- We can ship the house by vessel or a truck to any country in the World.
- We can customize technical specifications.
- The materials have CE certificates and meet European standards.

Categories and Cost

House options for a 1100 SQF Cost:

- Low Budget Prefab House Cost: 8.5 - 9.5 Lakh INR
- Affordable Prefab House Cost: 12.5 - 14.5 Lakh INR
- Luxury Prefab house: 28.5 - 45.5 Lakh INR

Low budget prefab house

A low-budget prefabricated (prefab) house is designed to be affordable while still providing the essential features of a comfortable and functional home. These homes are typically smaller, simpler in design, and constructed with cost-effective materials and methods.

Affordable prefab house

An affordable prefabricated (prefab) house is designed to provide a balance between cost, quality, and functionality. It focuses on cost-effective construction methods and materials without sacrificing essential features that ensure a comfortable and durable home.

Luxury Prefab house

A luxury prefabricated (prefab) house combines the benefits of modern construction techniques with high-end materials, custom designs, and top-notch amenities. Unlike traditional prefab homes, which are often associated with affordability and simplicity, luxury prefab houses are designed to provide the same level of sophistication, comfort, and personalization as high-end custom-built homes.

Sample BOQs Comparison

Category	Low Budget	Affordable	Luxury
Foundation - Material Type	Concrete Blocks	Reinforced Concrete	Poured Concrete
Wall Material	Wedge Steel Panels / Cement Boards	Wedge MP1000 / OSB / UV Coated Cement Board	Wedge MP1000 XPS Composite Panel
Roof Material	Wedge Steel Panels / Steel Roofing Sheet	OSB / PIR Sandwich Panel / Wedge MP1000	Wedge MP1000 XPS Composite Panel
Structure - Frame Material	MS Steel Frame	Steel Frame System	LGFS / Steel and Wood Hybrid Frame
Interior Finishes - Flooring	Vinyl Flooring / Ceramic Tiles	Vitrified / Porcelain Tiles / Laminate Flooring	Granite / SPC / Hardwood Flooring
Interior Finishes - Wall	Basic Paint	Textured Paint	Designer Wallpaper
Interior Finishes - Ceiling	Drywall	MgO / Pop Ceiling	Coffered Ceiling
Doors & Windows	Aluminum Windows	UPVC Windows	Double-Glazed Windows
Exterior - Paint / Cladding	Basic Paint	Textured Paint	Stone / Plank Cladding
Exterior - Roofing	Colour Coated Sheets	Metal Roofing / Asphalt Shingles	Clay Tiles / Asphalt Shingles
Utilities - Electrical	Standard Wiring	Copper Wiring	Smart Home Electrical System
Utilities - Plumbing	PVC Pipes	CPVC Pipes	PEX Pipes
Utilities - HVAC	Window AC	Split AC	Central Air Conditioning

Wedge | Typical BOQ Item List

Category	Item Description
Site Preparation	Clearing and leveling the site
Transportation	Transport of prefabricated components
Permits and Approvals	Building permits and legal approvals
Foundation Concrete	Concrete for foundation
Reinforcement Steel	Reinforcement steel for foundation
Wall Panels	Wedge MP1000, Steel Panel
Roof Panels	Pre-fabricated roof panels
Floor Panels	Pre-fabricated floor panels
Beams and Columns	Beams and columns for structure
Insulation for Walls	Insulation for wall panels
Insulation for Roof	Insulation for roof panels
External Cladding	Boards, Plank, HPL, Vinyl, Wood, Metal
Roof Coverings	Roof shingles/tiles
Windows and Doors	Pre-hung doors and pre-glazed windows
Interior Wall Panels	Interior wall panels (drywall)
Flooring	Flooring installation (tiles, wood, carpet)
Ceiling Panels	Ceiling panels installation
Plumbing Pipes	Pipes for water supply and drainage
Water Heater	Electric water heater
Electrical Wiring	Wiring for all electrical systems
Light Fixtures	Ceiling and wall light fixtures
HVAC System	HVAC units (heating and cooling)
Ductwork	Ductwork installation
Ventilation Fans	Ventilation fans for bathrooms/kitchen
Decking	Decking material and installation
Staircase	Pre-fabricated staircase
Landscaping	Grass, plants, and pathways
Miscellaneous Items	Security systems, solar panels, etc.

Wedge | Payment and Delivery Contract Terms

Payment Terms

- Initial Deposit Amount: Typically 10-20% of the total cost to be paid upon signing the contract.
- Design, Layout, BOQ: 10-15% of the total cost to be Paid after final design approval.
- Manufacturing & Supply Payment: 30-40% of the total cost. Paid before manufacturing process.
- Delivery and Installation Payment: 20-30% of the total cost. Paid upon delivery of the materials.
- Final Payment: Balance to be paid upon completion of the installation and inspection.

1. **EPC:** Engineering, Procurement, and Construction

- Engineering: Complete design of the project. This includes detailed engineering work.
- Manufacture and Supply: Supply and procurement of all materials required for the project.
- Construction: The contractor undertakes the actual construction work, bringing the design to life and ensuring that the project is completed according to the specifications.
- Commissioning and Handover: Performs testing to ensures the project meets all operational criteria.

2. **BRT:** Build, Rent, Transfer Payment & Delivery Term

Building prefab houses or resorts, renting it out to the public for a specified period, and then transferring ownership at the end of the rental period.

- Build: Undertakes the financing, design, and construction to agreed-upon specifications. This includes all aspects of project development, from initial planning to completion.
- Rent: The rental period is typically specified in the contract, and the rent payments cover the costs of construction, financing, operation, and maintenance, along with a profit margin for the private entity.
- Transfer: At the end of the rental period, the ownership of the facility is transferred at no additional cost.

3. **BRM:** Build, Rent, Maintain Payment & Delivery Term

Responsible for constructing, renting it out to a public or private entity, and then providing ongoing maintenance for the facility over the rental period.

- Build: Design, financing, and construction of the project.
- Rent: The rental payments are made regularly and are designed to cover the costs of construction, financing, and a profit margin.
- Maintain: Responsible for the ongoing maintenance of the facility during the rental period. Maintenance includes routine upkeep, repairs, and ensuring that the facility remains in good operational condition throughout the rental period.

WedgeMP 1000 SFS | Prefab Technologies

Prefabricated housing technologies offer a range of options tailored to different needs, from affordable housing solutions to high-end, energy-efficient homes. The choice of technology depends on factors such as budget, environmental considerations, design preferences, and the intended use of the building. As prefabrication continues to evolve, it is likely to play an increasingly important role in the future of construction, offering innovative solutions to meet the growing demand for efficient, sustainable, and affordable housing.

Wedge SFS Prefab Housing Technologies

Wedge India specializes in various prefabricated house technologies that emphasize energy efficiency, sustainability, and durability. Their approach includes the use of high-performance insulation systems, which incorporate modern nano-materials to enhance heat loss protection. These systems are designed to be cost-effective and environmentally friendly, making them suitable for both residential and commercial prefabricated structures. Wedge India's prefabricated solutions are customizable, allowing for flexibility in design and application, whether for modular homes, offices, or other building types.

1. Panelised Construction:

In panelised construction, flat panels (such as walls, floors, and roof sections) are manufactured in a factory and then assembled on-site.

- Wedge Structural Insulated Panels (SIPs): Consist of an insulating CCXPS foam core sandwiched between two structural facings of WedgeMP 1000 Cement Perlite Magnesia Composite Boards.
- Precast Concrete Panels: Made of concrete and used for both structural and aesthetic purposes.
- Energy Efficiency: SIPs, in particular, offer excellent insulation, leading to energy-efficient homes.
- Strength: Panels can provide superior structural integrity, especially in regions prone to natural disasters.
- Customizable: Panels can be designed to fit various architectural styles.
- Applications: Suitable for both residential and commercial buildings, schools, and office buildings.

2. Modular Construction:

Modular construction involves building sections (modules) of a house in a factory setting. These modules are then transported to the site and assembled to create a complete home.

- Speed: Modules are constructed concurrently with site preparation, reducing construction time.
- Quality Control: Factory conditions allow for quality control, resulting in high precision and consistency.
- Flexibility: Can be customized in design and size, and additional modules can be added later.
- Applications: Wide range of housing types, from single-family homes to multi-story apartment buildings.

3. Steel Frame Construction:

Steel frame construction uses steel as the primary structural component of the house. The steel frame is fabricated in a factory and then assembled on-site.

- Durability: Steel is resistant to termites, fire, and natural disasters, strong and long-lasting structure.
- Flexibility: Steel frames can be used in a wide range of designs, from simple to complex structures.
- Sustainability: Recyclable and can reduce the demand for traditional wood framing.
- Applications: Areas with seismic activity or where strong, durable structures are needed.

4. Tiny House on Wheels (THOW):

Tiny houses on wheels are small, mobile homes built on a trailer chassis prefabricated in a factory.

- Mobility: These homes can be relocated, offering flexibility in living arrangements.
- Cost-Effective: More affordable than traditional houses, with lower maintenance and utility costs.
- Simplicity: Appeals to those seeking a minimalist lifestyle with a reduced environmental footprint.
- Applications: Popular among individuals and families looking for affordable vacation homes.

5. Hybrid Construction:

Hybrid construction combines various prefabricated building methods, such as using modular construction for the main structure and panelized construction for the roof and walls.

- Customization: Combining the best features of different prefabrication technologies.
- Efficiency: Optimizes construction time and cost by using the most appropriate methods.
- Versatility: Suitable for a wide range of building types and designs.
- Applications: Ideal for complex projects that require the benefits of multiple construction technologies.

Wedge

Approved Building Materials

SFS | Wedge Steel Framing Systems

SFS (Steel Framing System) is commonly used in the construction of prefab (prefabricated) houses due to its strength, durability, and versatility. Wedge Steel Framing System (SFS) involves using lightweight steel sections to create the structural framework of a building. These steel frames are designed to support the walls, floors, and roof of a structure. SFS typically includes steel studs, tracks, and other structural components that are assembled on-site or in a factory setting.

Benefits of Using SFS in Prefab Houses

- High Durability: Steel is resistant to termites, rot making it ideal for long-term durability.
- High Strength: Steel has a high strength-to-weight ratio making thinner walls stronger structural integrity.
- Precision: Steel components are manufactured with high precision, ensuring consistency and accuracy.
- Sustainability: Steel is recyclable, using SFS reduces the environmental impact of construction.
- Fire Resistance: Steel is non-combustible, providing an added layer of safety in prefab houses.








Wedge MP1000 | Perlite Magnesia Board

Composition of Wedge Board MP1000

- High Density High Strength Perlite Aggregates
- High Purity Grade Calcining Magnesite
- Glass Ceramic Fibers
- Insulation Core of XPS or Perlite

Technical Properties Wedge Board MP1000

- Higher Impact Strength
- Higher Bending Strength
- Water Absorption Resistant
- Moisture Resistance
- High Performance in Humid Environments
- Fire Resistance
- Thermal Insulation
- Acoustic Insulation
- Moisture and Mold Resistance
- Longer Life

Applications in Prefab Buildings:

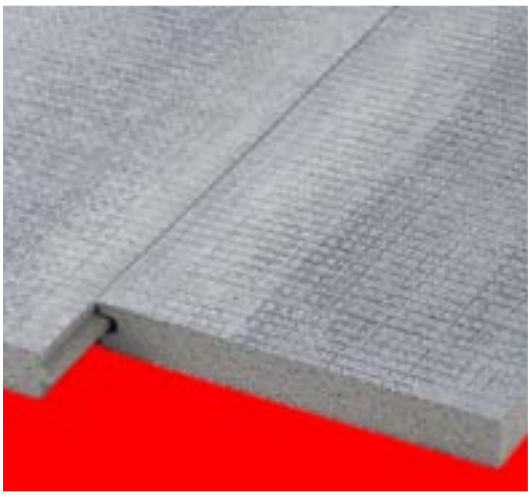
- Wall Building Boards, Sandwich Panels
- Steel Frame Covering
- Interior Partitions & Ceilings
- Flooring, Tile Backer, Floor Insulation
- Roofing Steel Structure Covering

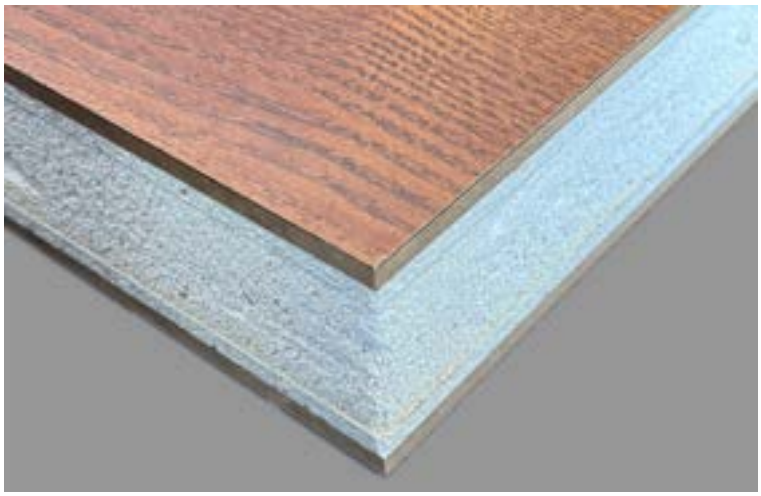
Item Details & Test Standards	Wedge MP1000
Base Materials	Perlite, Magnesia, Matrix Silica Fibers
Panel Base Materials	MP1000, Perlite Coated Mineral Wool, XPS
Board Thickness, mm	4 to 25
MP1000 Panel Thickness, mm	50 to 168
Board Standard Size, mm	2440 x 1220
Panel Standard Size, mm	2440 x 1220; 3000 x 1220; 3000 x 610
Short term Temperature Resistance °C	1400
Long term Temperature Resistance °C	1200
Resistance to freezing °C	- 20
Board Density, kg/m3, BS EN 12467 -2012, ASTM C 1186	1050 to 1300
Panel Density, kg/m3, BS EN 12467 -2012, ASTM C 1186	800 to 1250
Fire Rating, Minutes	120
Reaction to fire, Non Combustibility BS 476 Part4, EN13501-1	A1
Acoustic Sound Insulation, DB	43
Impact Shock Resistance ASTM D5328, kJ/m2	6 to 8
Compressive strength, Mpa	18 to 22
Bending strength dry, Mpa, EN12467:2012 +A1:2016	16 to 20
Bending strength wet, Mpa	12 to 16
Screw Pull out Strength, N	1480 to 1650
Direct Screw Withdrawal, ASTM D1037-12, N	1000 to 1200
Moisture content %	3.50 to 8.5
Moisture movement, ASTM C1185, EN12467:2012 +A1:2016 %	0.12 to 0.18
Water absorption, ASTM C1185, %	6 to 12
Water permeability after 24 hours, water gauge 5 cm	No leakage
Water Vapour Permeability, EN12467:2012+A1:2016	Water vapour resistance value µm: 31
Water Impermeability, EN12467:2012+A1:2016	Passed
Dry Shrinkage, ASTM C 1186-08, maximum %	0.2
Wet expansion ASTM C 1186-08, maximum %	0.1
Thermal conductivity, ASTM C177, EN12667:2001, W/(m·K)	0.14 to 0.17
Asbestos or formaldehyde	None
Warranty, Years	50
Free chloride content, %	Zero
Growth of Mold & Mildew ASTM D3273	No Growth
Dimensional Tolerance, EN12467:2012 +A1:2016, Width	±2mm
Dimensional Tolerance, EN12467:2012 +A1:2016, Thickness	±0.2mm
Dimensional Tolerance, EN12467:2012 +A1:2016, Edge Straightness, %	±0.02mm
Dimensional Tolerance, EN12467:2012 +A1:2016, Squareness, mm/m	±0.08mm

Wedge MP1000 | Prefabricated Composite Panels

WedgeMP 1000 is a specific type of Magnesia Perlite Cement composite board designed for use in building prefabricated houses and other construction projects. WedgeMP 1000 is very high strength building construction board that is manufactured with high temperature resistant hydrophobic perlite reinforced refractory grade magnesia raw materials to create a material that is both lightweight and strong.



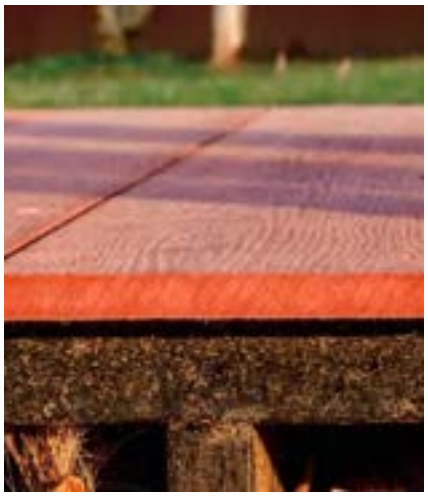
WedgeCEM, WedgeClad | UV Coated Cement Board

WegdeCem Cement Board is a building material that is commonly used in construction and home improvement projects. It is a type of sheet material that is made from a combination of Portland cement, reinforced with fibers like fiberglass or cellulose, and sometimes with additional additives for strength and durability.

Through-colored WedgeClad cement board, also known as pre-colored or pre-finished cement board, is a type of fiber cement board that is manufactured with pigments and colorants integrated throughout the material. This means that the color is not merely a surface finish or paint; instead, it runs consistently through the entire thickness of the board. Through-colored cement board offers several advantages and is commonly used in architectural and construction applications.

WedgeClad Board are used for climate-resistance, waterproof, wind loading resistance, UV proof and exterior wall leaking protection, and thermal insulation. WedgeClad Board, insulation material, air layer and framework compose the ventilated cladding system.








Wedge OSB700 | Light Steel Frame Covering Board

OSB700 is Oriented strand board, is the upgrading of the traditional particleboard products, its mechanical properties with directionality, durability, moisture resistance, and dimensional stability than ordinary particleboard. With a small expansion coefficient, no distortion, good stability, uniform material and nail holding high performance. OSB is manufactured in a cross-oriented pattern similar to plywood to create a strong, stiff structural panel. OSB is composed of thin rectangular-shaped wood strands arranged in layers at right angles to one another, which are laid up into mats that form a panel. OSB is bonded with water-resistant adhesives.

As an added feature, panels are often textured on at least one side to provide a slip resistant surface. OSB uses the wood resource very efficiently, in part because sheathing panels can be made using smaller, younger fast-growing tree species, such as aspen and southern yellow pine. Plus, about 85-90 percent of a log can be used to make high quality structural panels, and the remainder--bark, saw trim, and sawdust can be converted into energy, pulp chips or bark dust.





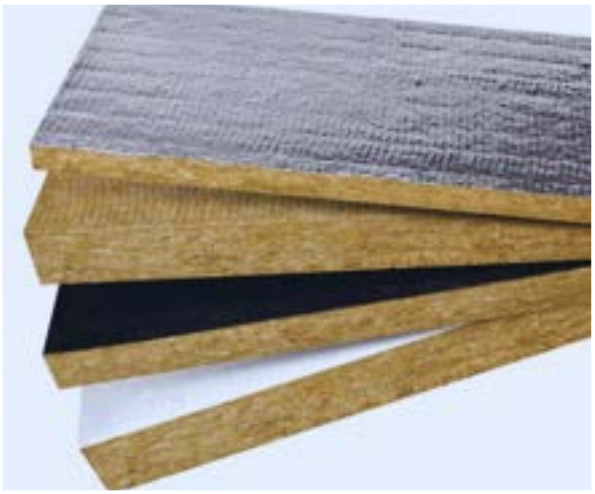
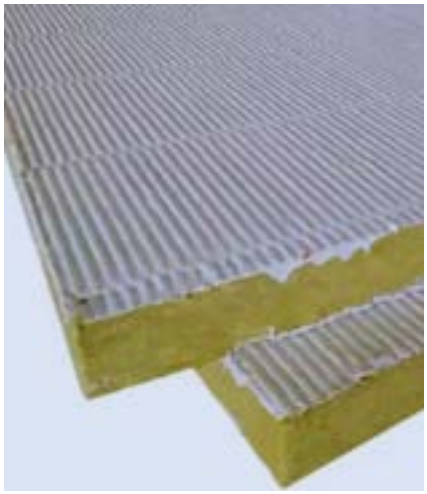


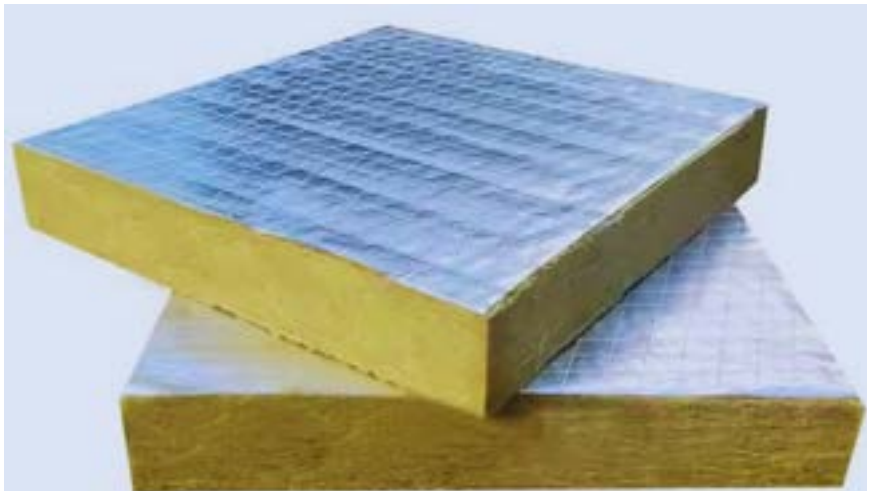
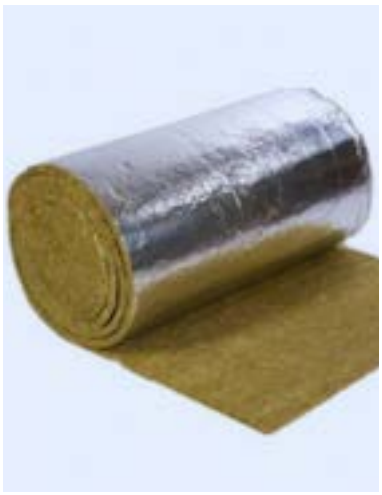
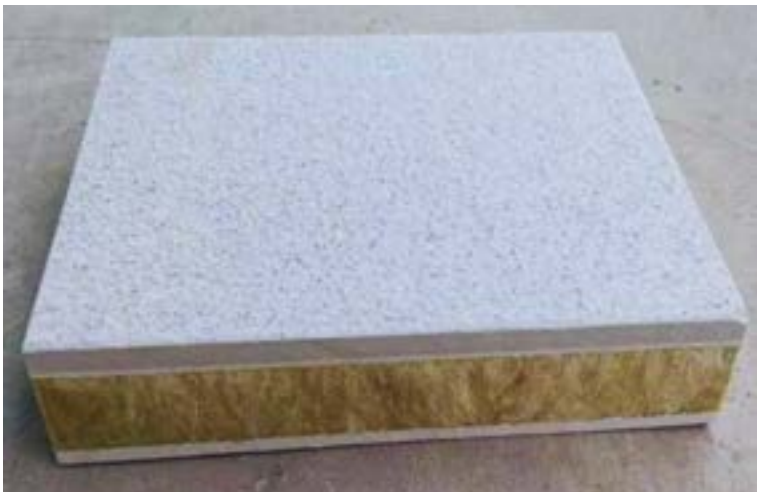

Wedge

HDRW 100 | Perlite Coated Insulation Board

Wedge HDRW 100 Grade Insulation Boards are most suitable for Insulation Wall, Roof, Partitions, and Floor of Prefabricated houses. These boards are covered with water proof high strength Perlite, Aluminium Foil, or E-Glass cloth to protect the Steel Frame from corrosion under insulation in humid or remote areas where regular maintenance is not feasible.

Perlite-coated high-density mineral wool insulation boards are specialized insulation materials designed for superior thermal and acoustic performance. These boards combine the fire-resistant and insulating properties of mineral wool with the lightweight, moisture-resistant benefits of perlite coating. The perlite coating enhances the board's durability, water repellency, and resistance to mold and mildew, making it ideal for use in environments with high moisture levels or where enhanced fire protection is required. These boards are commonly used in industrial, commercial, and residential buildings for efficient insulation.


SPC Floor Tiles

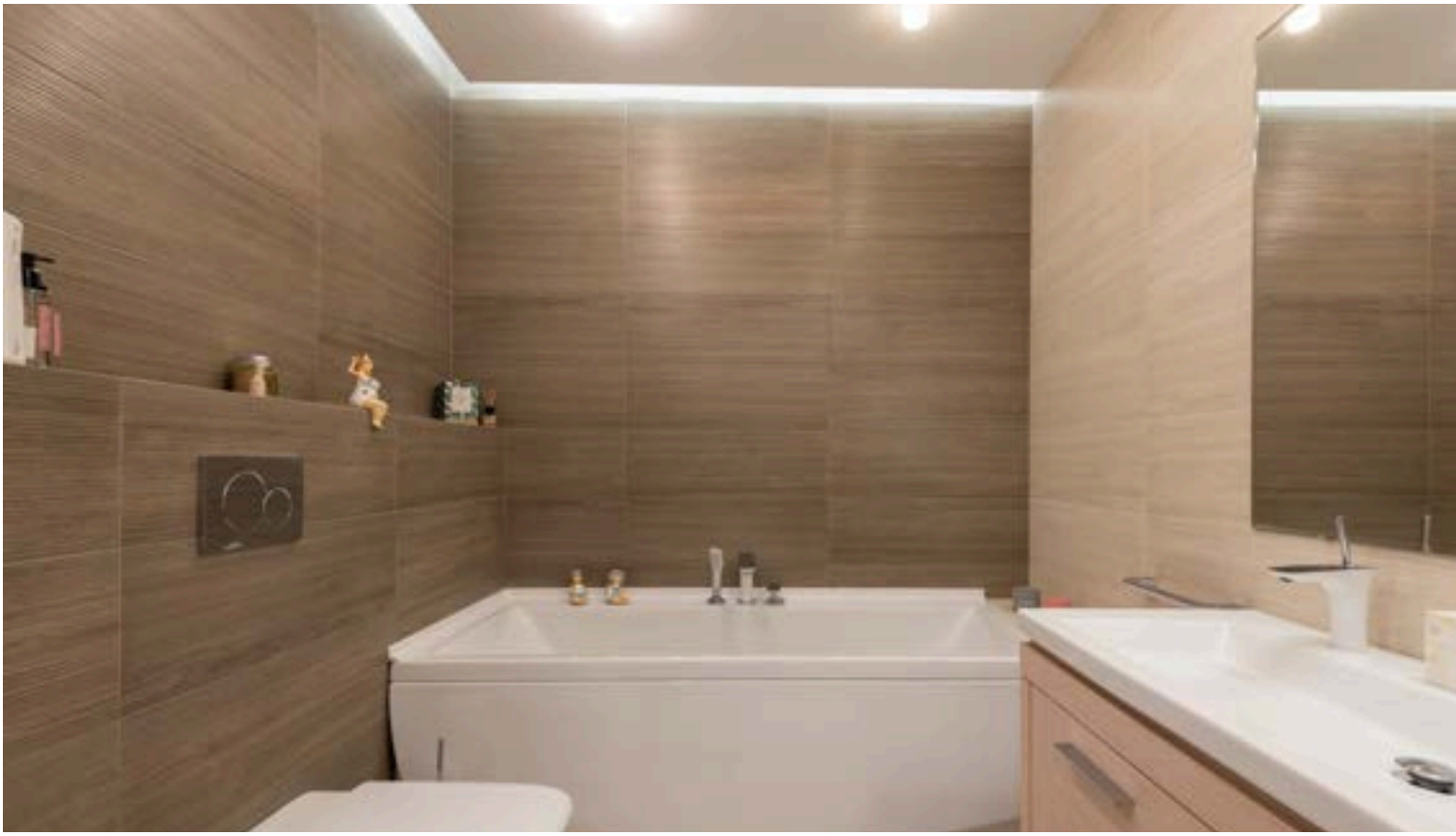
Asphalt Roofing Shingle

Rain Water Gutter

Septic Tank

Steel Roofing Sheet

Tiles and Bathroom Fittings



Modular Kitchen

Doors

Windows

Modern Luxury House

Wedge Group

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