

Innovative Composite Products Developed for Suitable Application in Aerospace, Defence, Railways and Ship Building Industry.

S.No	Product Description	Thickness (mm)	Wt/sft (Kg/sft)	Density (kg/m ³)	Standard Size	Thickness Available
1	PU Coated Bamboo Laminated Flexible Composite	1.3	0.130	740	4'x8'	1.3
2	Graphene Coated Bamboo Laminated Flexible Composite	1.3	0.130	740	4'x8'	1.3
3	PU Coated Bamboo Laminated Composite	2.7	0.260	790	4'x8'	2.7
4	Graphene Coated Bamboo Laminated Composite	2.7	0.260	790	4'x8'	2.7
5	PU Coated Bamboo Composite Laminated Sheet	4.0	0.290	750	4'x8'	4.0
6	Graphene Coated Bamboo Laminated Sheet	4.0	0.290	750	4'x8'	4.0
7	Bamboo Composite Roofing Sheet	6.0	0.55	1100	4'x8'	6.0
8	Bamboo-Carbon Fibre Laminated Sheet	6.5	0.555	1000	4'x8'	4.0,5.5,7.0
9	Bamboo-GI Laminated Sheet	5.0	0.933	2000	4'x8'	2.5,4.0,5.0
10	Bamboo Honeycomb Sandwich Panel	22	0.57	267	4'x8'	10,16,22, 40,50
11	GI-Honeycomb Sandwich Panel(GI-0.5mm)	24	0.830	465	4'x8'	10,12,17, 24,37,50
12	GI-Honeycomb Sandwich Panel(GI-1.0mm)	25	1.62	700	4'x8'	10,12,17, 24,37,50

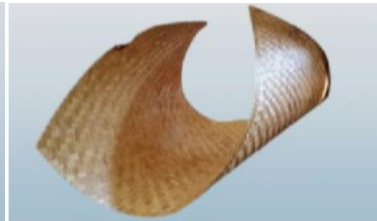
Specific Advantages of the above materials:

1. Light Weight
2. High Strength and Stiffness
3. Water/Moisture Resistance
4. Fire Retardant
5. Corrosion Resistant
6. Thermal and Sound insulation
7. Impact Resistance
8. Abrasive resistant
9. Termite proof, non fungus
10. Eco-Friendly and Sustainable
11. Cost Effective replacement for Metal Parts and Import substitute.

1.0 PU COATED BAMBOO LAMINATED FLEXIBLE COMPOSITE



CNC MACHINABLE: CUTTING, DRILLING, JOINING Etc.



Description: Natural Bamboo flexible laminate board is manufactured using high quality woven bamboo with PF resin impregnated and hot compression molded using aerospace spinoff technology. The product is Eco-Friendly and sustainable.

Properties: Light weight, High quality, HT cured, Boil water/moisture resistant, non corrosive, termite proof, thermal /electrical insulation, impact resistant.

Application: Laminating over plywood for interior decoration and furniture application. Can be cut by conventional wood working, CNC etc and compatible to bond using conventional glues for plywood. It can be painted /polished for aesthetic architectural cladding. It can be used in aircraft, defense, railways, and automobile application.

Table: Thickness Vs Weight/Density of PU Bamboo flexible Laminated Composite

S.No	Thickness (mm)	Weight/m ² (Kg)	Volume Density (kg/m ³)	%Weight Reduction compared to steel
1	1.3	1.087	740	90



2.0 GRAPHENE COATED BAMBOO LAMINATED FLEXIBLE COMPOSITE



Description: NF-B board is manufactured using high quality woven NF-B, PF resin impregnated and hot compression molded by hot press using aerospace spinoff technology. The product is Eco-Friendly and sustainable. Weight = 3.2 kg/sheet.

Properties: Light weight, High quality, HT cured, Boil water/moisture resistant, non corrosive, termite proof, thermal /electrical insulation, impact resistant.

Application: Laminating over plywood for interior decoration and furniture application. Can be cut by conventional wood working, CNC etc and compatible to bond using conventional glues for plywood. It can be painted /polished for aesthetic architectural cladding. It can be used in aircraft, defense, railways, and automobile application.

Table: Thickness Vs Weight/Density of Bamboo flexible Laminated Composite

S.No	Thickness (mm)	Weight/m ² (Kg)	Volume Density (kg/m ³)	%Weight Reduction compared to steel
1	1.3	1.087	740	90

3.0 PU COATED BAMBOO LAMINATED COMPOSITE



Thickness = 2.7mm

Description: NF-B board is manufactured using manual hand woven NF-B PF resin impregnated and hot compression molded using aerospace spinoff technology. The product is Eco-Friendly, sustainable and confirming to :(IS: 15476-2004)

Properties: Light weight, high strength, hot cured, boil water/moisture resistant, non-corrosive, termite proof, thermal /electrical insulation, impact resistant.

Application: Drone, aircraft, defense, marine and railways false ceiling, wall cladding. Suitable for industrial, tennis/badminton flooring, furniture, boat/ship building.

Table: Thickness Vs Weight/Density of Graphene Coated NF-B Laminated Board

S.No	Thickness (mm)	Weight/ft ² (Kg)	Volume Density (kg/m ³)	%Weight Reduction compared to steel
1	2.7	2.153	790	90

4.0 GRAPHENE COATED BAMBOO LAMINATED COMPOSITE



Thickness = 2.7mm

Description: NF-B board is manufactured using manual hand woven NF-B PF resin impregnated and hot compression molded using aerospace spinoff technology. The product is Eco-Friendly, sustainable and confirming to :(IS: 15476-2004)

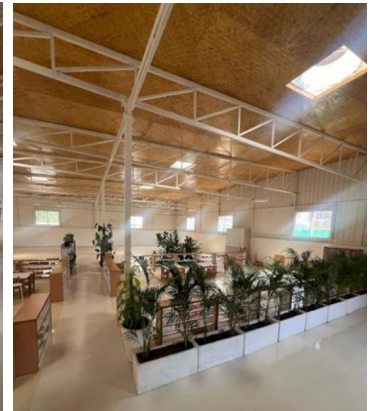
Properties: Light weight, high strength, hot cured, boil water/moisture resistant, non-corrosive, termite proof, thermal /electrical insulation, impact resistant.

Application: Drone, aircraft, defense, marine and railways false ceiling, wall cladding. Suitable for industrial, tennis/badminton flooring, furniture, boat/ship building.

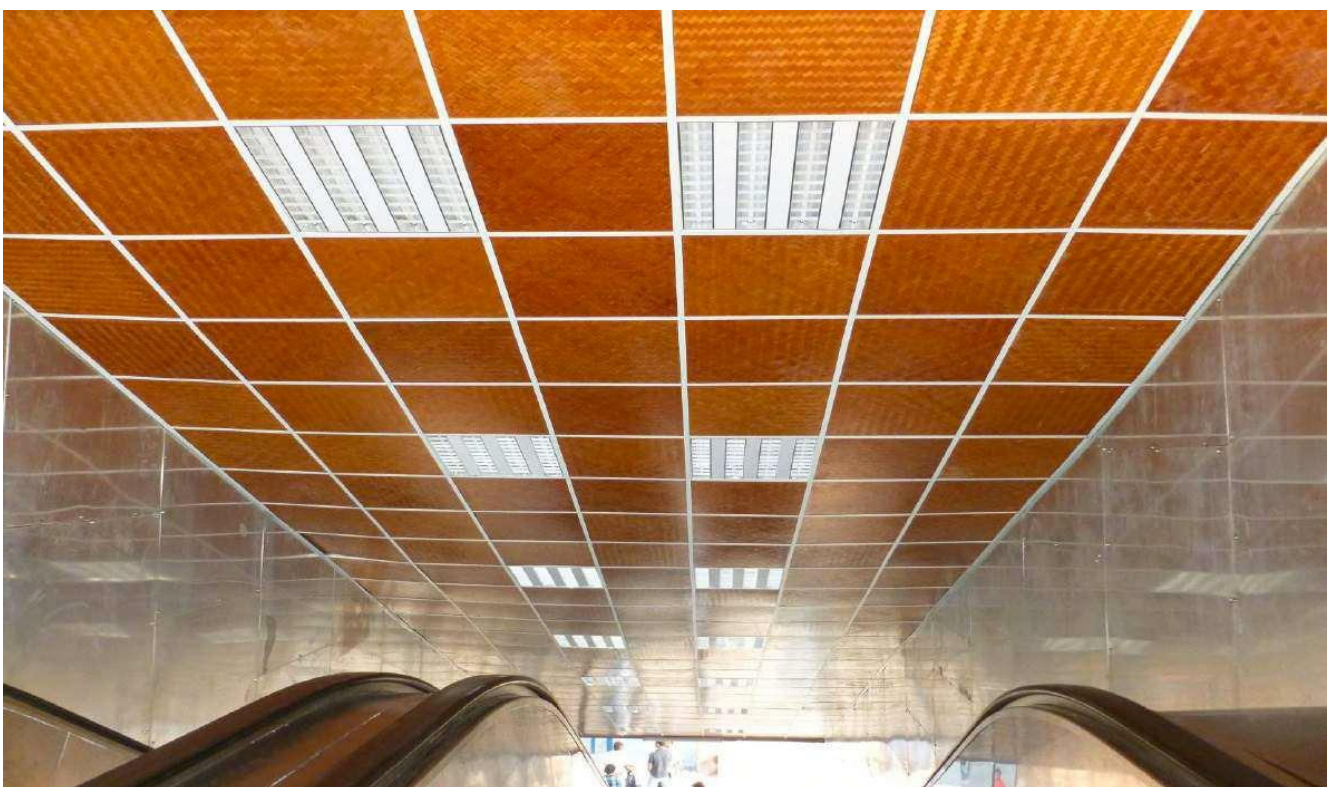
Table: Thickness Vs Weight/Density of Graphene Coated NF-B Laminated Board

S.No	Thickness (mm)	Weight/ft ² (Kg)	Volume Density (kg/m ³)	%Weight Reduction compared to steel
1	2.7	2.153	790	90

5.0 PU COATED BAMBOO COMPOSITE LAMINATED SHEET



Thickness = 4.0mm





Properties: Light weight, high strength, hot cured, boil water/moisture resistant, non-corrosive, termite proof, thermal /electrical insulation, impact resistant. Weight= 9.2 Kg/Sheet.

Application: False ceiling, wall cladding. Suitable for industrial, tennis/badminton flooring, furniture, Resort /Cottage building,

Superior quality bamboo laminate sheets are available with graphene based PU polish/ paint of desired color.

Table: Thickness Vs Weight/Density of PU Coated Bamboo Composite Laminated Sheets

S.No	Thickness (mm)	Weight/Sft (Kg)	Volume Density (kg/m ³)	%Weight Reduction compared to steel
1	4.0	0.288	750	90

6.0 GRAPHENE COATED BAMBOO COMPOSITE LAMINATED SHEET



Properties: Light weight, high strength, hot cured, boil water/moisture resistant, non-corrosive, termite proof, thermal /electrical insulation, impact resistant. Weight= 9.2 Kg/Sheet.

Application: False ceiling, wall cladding. Suitable for industrial, tennis/badminton flooring, furniture, Resort /Cottage building, Defence etc.

Superior quality bamboo laminate sheets are available with graphene based PU polish/ paint of desired color.

Table: Thickness Vs Weight/Density of Graphene Coated Bamboo Composite Laminated Sheets

S.No	Thickness (mm)	Weight/Sft (Kg)	Volume Density (kg/m ³)	%Weight Reduction compared to steel
1	4.0	0.288	750	90

7.0 BAMBOO COMPOSITE ROOFING SHEET



Bamboo Roofing Sheet with graphene Based attractive paint colors

Description: Bamboo mat board is manufactured using manually hand woven by rural women, PF resin impregnated and hot compression molded by press using aerospace spinoff technology. The product is Eco-Friendly, sustainable and confirming to :(IS: 13958-1994)

Properties: Light weight, High strength and stiffness, HT cured, moisture resistant, non corrosive, termite proof, thermal /electrical/acoustic insulation, impact resistant.

Application: Light Weight roofing for chemical industry, resorts/cottages, roof top, public buildings, parks etc.

Superior Quality: Bamboo roofing sheets are available with graphene based attractive paint/polish.

Table: Thickness Vs Weight/Density of Bamboo Roofing Sheet

S.No	Thickness(mm)	Volume Density(kg/m ³)	%Weight Reduction compared to steel
1	6.0	1100	86

8.0 BAMBOO-CARBON FIBRE LAMINATED SHEET



Thickness = 4.2mm – 7.5mm

Description: Bamboo-Carbon fibre Composite (M) sheets are manufactured by combining woven NF-B and carbon fibre, resin impregnated and hot compression molded using aerospace spinoff technology. The product is Eco-Friendly and sustainable.

Properties: Carbon fibre composite laminated NF-B sheets are superior quality, light weight, high strength, water/moisture resistant, non corrosive, termite proof, thermal /electrical insulation, impact resistant.

Applications: drone, aerospace, marine, defense application, furniture, boat/ship building, indoor and outdoor architectural cladding, aircraft, defense, railways, automobile parts etc.

Table: Thickness Vs Weight/Density of Carbon Fibre NF-B Composite Sheets

S.No	Thickness(mm)	Volume Density(kg/m ³)	%Weight Reduction compared to steel
1	4.2	1182	85
2	5.5	1109	86
3	7.2	1005	87

9.0 BAMBOO-GI LAMINATED SHEET



Thickness = 2.7mm – 5.0mm

Description: GI –NF-B Laminated sheets are hot compression molded using aerospace spinoff technology. Using structural adhesive and hot pressed. The product is Eco-Friendly and sustainable.

Properties: Light weight, High quality, HT cured, Boil water/moisture resistant, non corrosive, termite proof, thermal /electrical insulation, impact resistant.

Applications: Flooring, furniture, bulkheads, cabinets, built-in furniture, bunk beds, hatch cover and more for boat/ship building, laser cutting indoor and outdoor architectural cladding, aircraft, defense, railways, automobile parts etc.

Table: Thickness Vs Weight/Density of GI Laminated Composite Sheets

S.No	Thickness(mm)	Volume Density(kg/m ³)	%Weight Reduction compared to steel
1	2.7	3025	61
2	3.5	2550	67
3	5.0	2007	74

10.0 BAMBOO HONEYCOMB SANDWICH PANEL



Thickness = 12.5mm – 50mm



Bamboo Honeycomb Panel with Edge Binding

Description: Natural Bamboo Honeycomb Sandwich panels are bonded by hot press using aerospace spinoff technology. The product is Eco-Friendly and sustainable.

Properties: Light weight, High strength and stiffness, HT cured, moisture resistant, non corrosive, termite proof, thermal /electrical/acoustic insulation, impact resistant.

Application: NF-B honeycomb panels are superior quality material ideally suited for interior decoration, furniture application. It can be used for bulkheads, cabinets, built-in furniture, bunk beds, hatch cover and more for Defence, Resort/cottages, boat/ship, railways etc.

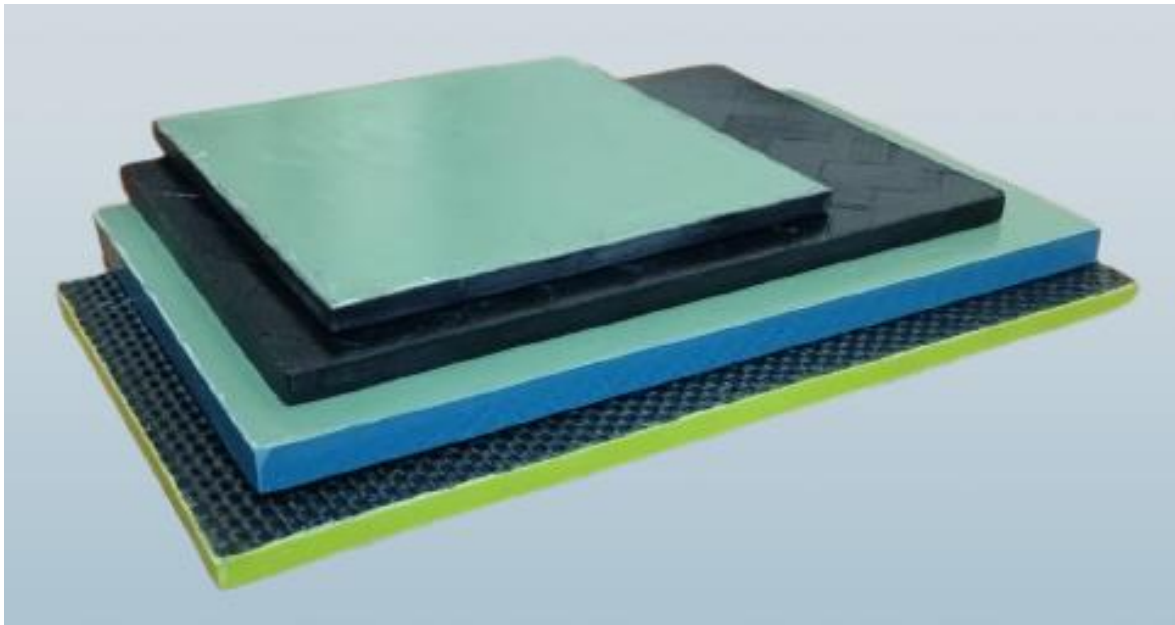
Table: Thickness Vs Weight/Density of Bamboo Woven Mat –Honeycomb Sandwich Panel.

S.No	Thickness (mm)	Weight/Sft (kg)	Volume Density(kg/m ³)	% Weight Reduction compared to steel
1	12.5	0.54	371	95
2	18.5	0.57	267	96
3	25.5	0.52	213	97
4	40	0.76	205	97
5	53.5	0.85	171	98

11.0 GI-HONEYCOMB SANDWICH PANEL (GI-0.5mm)



Thickness = 9.5mm – 50mm



GI – Honeycomb Sandwich with Edge Binding

Description: Galvanized Iron (GI) -Honeycomb sandwich panel is comprised of aircraft quality, phenol treated high density (>70kg/cu.m) honeycomb bonded with 1.0 mm / 0.5 mm GI sheet using high strength bonding adhesive and hot cured using aerospace spinoff technology. The product is Eco-Friendly and sustainable.

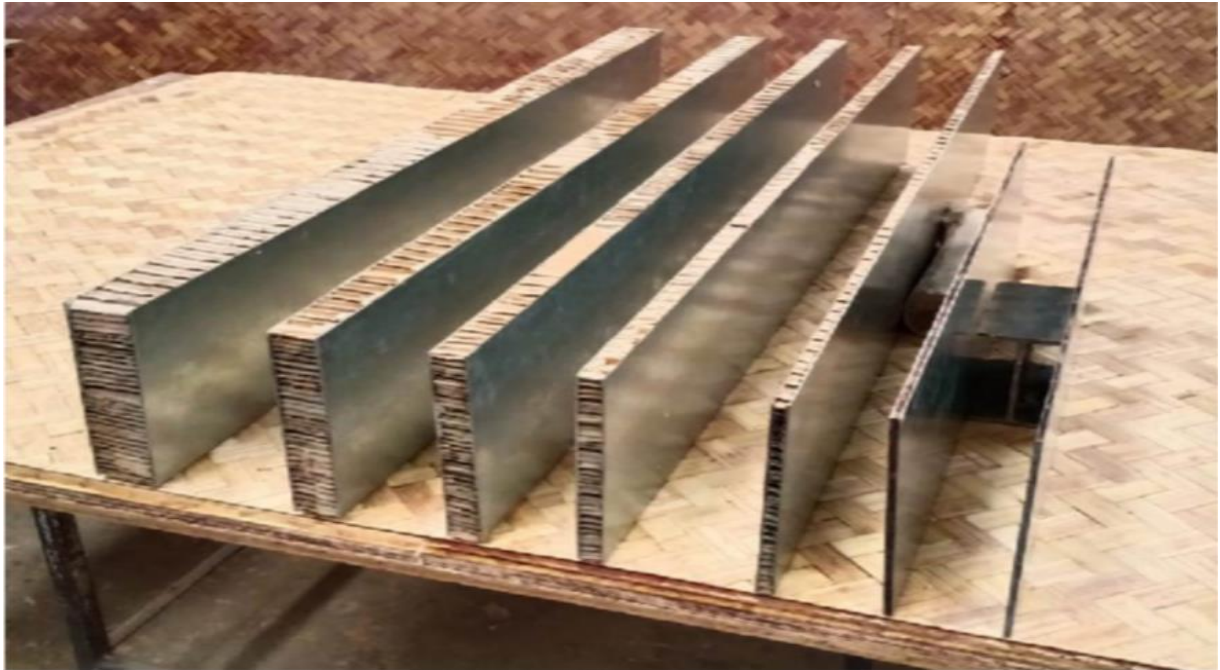
Properties: Light weight, High strength and stiffness, HT cured, moisture resistant, non corrosive, termite proof, thermal /electrical insulation, impact resistant.

Application: Steel/aluminum honeycomb panels are superior quality material ideally suited for bulkheads, cabinets, built-in furniture, bunk beds, hatch cover and more for Resort/Cottage building.

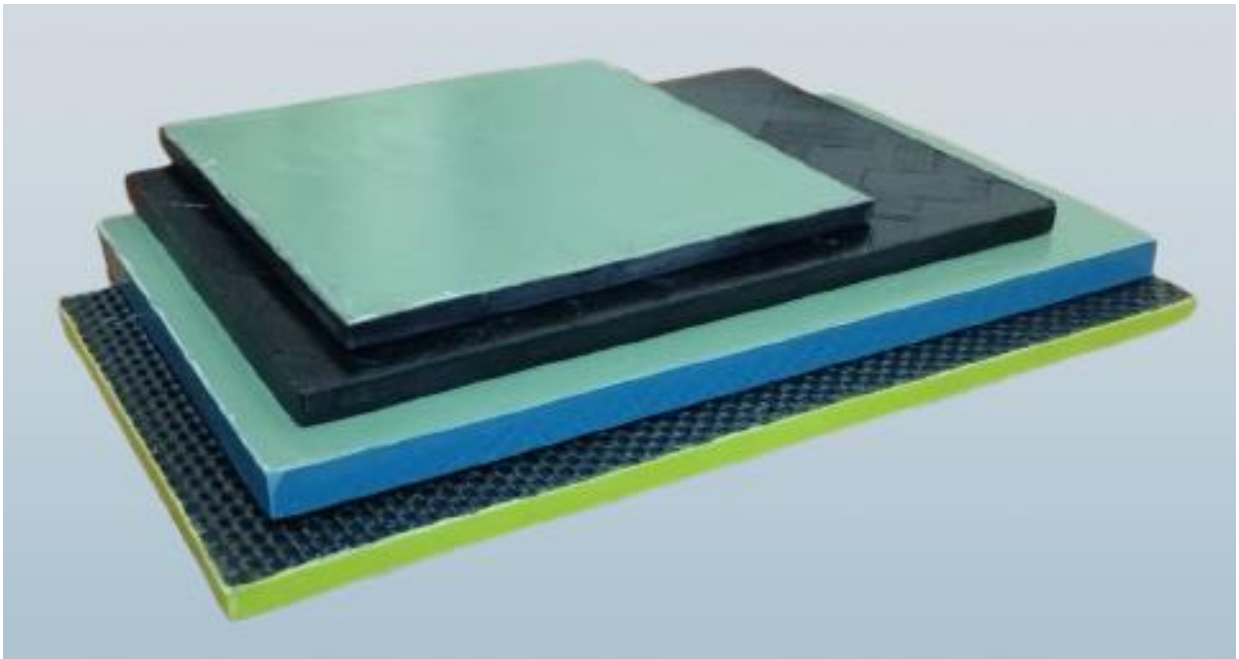
Table: Thickness Vs Weight/Density of (0.5mm) GI-Honeycomb Sandwich Panel.

S.No	Thickness (mm)	Weight/Sft (Kg)	Volume Density(kg/m ³)	%Weight Reduction compared to steel
1	9.5	0.750	849	89
2	12.0	0.735	687	91
3	17.0	0.800	515	93
4	24.0	0.830	466	94
5	37.0	0.920	357	95
6	50.0	1.019	219	97

12.0 GI- HONEYCOMB SANDWICH PANEL (GI- 1.0mm)



Thickness = 12mm – 50mm



GI – Honeycomb Sandwich with Edge Binding

Description: Galvanized Iron (GI) -Honeycomb sandwich panel is comprised of aircraft quality, phenol treated high density (>70kg/cu.m) honeycomb bonded with 1.0 mm GI sheet using high strength bonding adhesive and hot cured using aerospace spinoff technology. The product is Eco-Friendly and sustainable.

Properties: Light weight, High strength and stiffness, HT cured, moisture resistant, non corrosive, termite proof, thermal /electrical insulation, impact resistant.

Application: Steel/aluminum honeycomb panels are superior quality material ideally suited for bulkheads, cabinets, built-in furniture, bunk beds, hatch cover and more for Resort/Cottage building.

Table: Thickness Vs Weight/Density of (1mm) GI-Honeycomb Sandwich Panel.

S.No	Thickness (mm)	Weight/Sft (Kg)	Volume Density(kg/m ³)	%Weight Reduction compared to steel
1	12	1.52	1366	82
2	18	1.54	926	88
3	25	1.62	700	91
4	37	1.70	501	94
5	50	1.78	385	95