

## BUFFALO® FR-EPS SANDWICH ROOF PANELS



### SUPERIOR THERMAL INSULATION

With Over 20 types of thicknesses and superior core properties, Buffalo Sandwich wall panels can accommodate all domestic and Industrial wall partitioning needs.

### EXCELLENT NOISE INSULATION

Buffalo Sandwich panels are custom made to withhold and reduce up to 80% of excess noise from external impacts. With its monofilled body, Buffalo panels are ideal for wall coverings with noisy exterior.

### TRUSTED RIDGIDITY

Because of its unique design with double cladding and corrugated face profiles, Buffalo sandwich panels are ideal for high-rise building where extreme weather are present. Depending on the core Thickness, the Panels can be used free standing or with a support structure up to 7.2m.

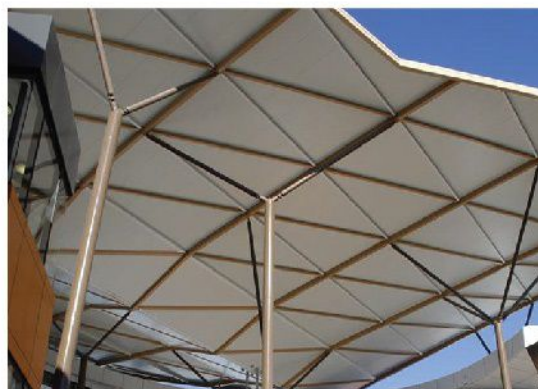
BUFFALO® Roof Panels is a long-spanning commercial and residential insulated roof panel system that combines roofing, EPS-FR insulation and a pre-painted ceiling in one durable, functional and attractive roof panel. This all-in-one roofing solution is manufactured using High Quality steel for durability and is installed in a variety of applications including educational facilities, Super Markets, multi-residential housing and retail facilities and is tested for use in cyclonic regions.

Buffalo FR-EPS sandwich panels are 100% made in Sri lanka using Specialize equipment and Production Process to meet international Quality Standards.

The Core insulation material (FR-EPS) is 100% fire retardent and have been certified by Fire Service Department of Sri lanka to Be used in Building Consturction. Buffalo Sandwich Panle has been tested for Fire Safety under Internation standards and it is the only Panel in the market to have Fire retardent certification.

### Some Other Features

- Quick erection time.
- Light weight.
- Resistance to fire (V=0 rating).
- Anti-corrosion skins.
- Sound insulation.
- Excellent thermal insulation.
- Flexible and easy to install.





## TECHNICAL SPECIFICATIONS

All Buffalo Sandwich panels are made in Sri Lanka with precision Quality to adhere both local and Foreign Standards.

The strength and deformation resistance of sandwich panels mainly depends on the characteristics of every component of panels, i.e. the strength, thickness, profile of steel sheets (panel facings), mechanic strength and thickness of core's heat insulation. However, the main factor providing Buffalo sandwich panels with excellent physical and mechanical qualities and well-known advantages is the interaction of these separate components, which is ensured by high-quality adhesive bonding. All Buffalo Sandwich panels are made with reference to Australian Quality standards 1366.3(1992) and Load variability guidelines are followed with respect to EU 14509:2002E.

### Span Table

Non-Cyclonic Region – Roof Application Only.

FR-EPS Core/ 0.47, Hi-Tensile External /0.35 Internal Steel Skins.  
Maximum Uniformly Distributed Ultimate Wind Load (kPa) for Given Span:

Single Span, wind pressure acting outwards							
Span (mm)	Panel Thickness (mm)						
	50	75	100	125	150	175	200
1500	5.16	7.70	9.41	10.98	13.26	15.51	17.81
2700	2.35	3.74	4.63	5.55	6.78	7.99	9.28
3900	1.28	2.00	2.55	3.11	3.67	4.23	4.79
5100	-	1.21	1.53	1.86	2.19	2.52	2.85
6300	-	-	1.04	1.25	1.47	1.69	1.91
7500	-	-	0.76	0.92	1.07	1.22	1.38
8700	-	-	-	-	0.82	0.94	1.05

Multi-span, wind pressure acting outwards							
Span (mm)	Panel Thickness (mm)						
	50	75	100	125	150	175	200
1500	4.15	5.90	7.61	7.74	7.74	7.74	7.75
2700	2.07	2.91	4.00	4.35	4.35	4.35	4.35
3900	1.17	1.72	2.41	2.95	3.04	3.04	3.05
5100	-	1.11	1.58	1.98	2.35	2.35	2.36
6300	-	-	1.10	1.40	1.77	1.93	1.93
7500	-	-	-	1.03	1.31	1.57	1.64
8700	-	-	-	-	-	1.20	1.43

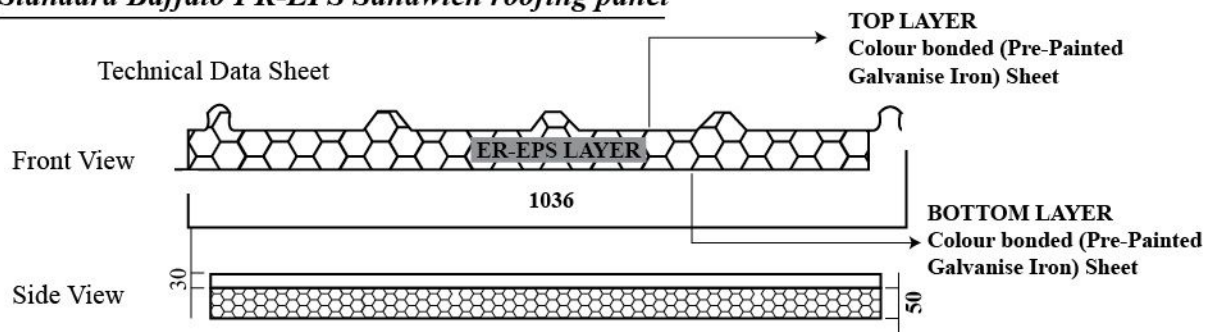
### Note-

1. Min. roof slope of 2 degree applies
2. Pressures specified are for wind Gusts only per AS/NZS 1170.2.
3. Deflection limit of span/150 applies, and in accordance with Serviceability Limit State Criteria per AS/NZS 1170.0 – table C1.
4. Self-Weight of the panel has been allowed for, plus and allowance of Max 25kg/m<sup>2</sup> for light duty fittings (lights etc.). No other dead load permitted.
5. Fixing with 14g tek screws (or Equivalent) at each rib as required.



Core	FR-EPS (Fire Retardant Expanded Polystyrene)
Width (cover mm)	985
Thickness (mm)	50, 75, 100, 125, 150, 175, 200, 250
Length	Up to 25m
External Material	0.3 - 0.47 PPGI Hi tensile G550
External Finish	High-Rib trapezoidal Profile
Colours	*Please check Availability
Pitch	Min. 2 Degrees
Internal Material	0.3mm / 0.35mm PPGI G550/G300
Internal Finish	Flush
Acoustic Properties	Rw 24-25 (on thickness)
Ignitability Index	0
Flame Index	0
Smoke Index	2-3
Heat Evolved Index	0

### Standard Buffalo FR-EPS Sandwich roofing panel







## SUPERIOR THERMAL INSULATION

With Over 20 types of thicknesses and superior core properties, Buffalo Sandwich wall panels can accommodate all domestic and Industrial wall partitioning needs.

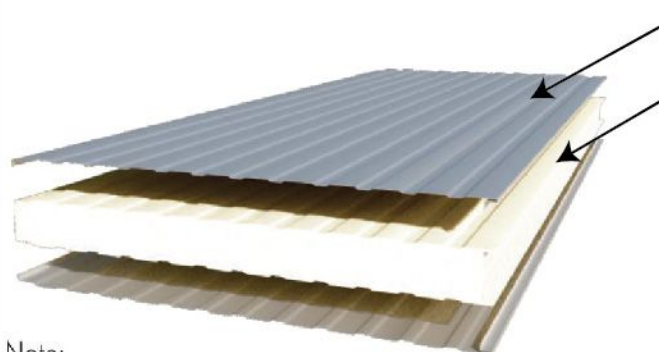
## EXCELLENT NOISE INSULATION

Buffalo Sandwich panels are custom made to withhold and reduce up to 80% of excess noise from external impacts. With its monofilled body, Buffalo panels are ideal for wall coverings with noisy exterior.

## TRUSTED RIDGIDITY

Because of its unique design with double cladding and corrugated face profiles, Buffalo sandwich panels are ideal for high-rise building where extreme weather are present. Depending on the core Thickness, the Panels can be used free standing or with a support structure up to 7.2m.

## BUFFALO® FR-EPS SANDWICH WALL PANELS



Note:



- High Strength Galvanized Iron Cladded Facia.
- Available in any thickness profile as needed, depending on the Project requirement.
- Easy erection and Workability with up to 98% less weight than a masonry structure and up to 70%\* Lighter than other (PU, Mineral wool) Sandwich Panels.
- Only Sandwich panel in Sri Lanka that is Approved by the Fire Department of Sri Lanka to be used in Building Construction.

Buffalo FR- EPS Sandwich wall panel® are suitable to be used in a variety of applications in commercial and housing constructions. Buffalo Sandwich wall panel consist of three layers. The top steel skin on two sides and a FR-EPS insulation layer in the middle. The thickness of the panel can be selected according to the customers need. Buffalo FR-EPS sandwich panels are 100% made in Sri Lanka using Specialized equipment and Production Process to meet international Quality Standards.

The Core insulation material (FR-EPS) is 100% fire retardant and have been certified by Fire Service Department of Sri Lanka to Be used in Building Construction. Buffalo Sandwich Panel has been tested for Fire Safety under International standards and it is the only Panel in the market to have Fire retardant certification.

### Some Other Features

- Quick erection time.
- Great appearance
- Light weight but firm
- Resistance to strong wind-Water and is fire proof
- Anti-corrosion skins
- Sound insulation
- Excellent thermal insulation
- Flexible and easy to install

### EXTERNAL WALLING



### INTERNAL WALLING





## TECHNICAL SPECIFICATIONS

All Buffalo Sandwich panels are made in Sri Lanka with precision Quality to adhere both local and Foreign Standards.

The strength and deformation resistance of sandwich panels mainly depends on the characteristics of every component of panels, i.e. the strength, thickness, profile of steel sheets (panel facings), mechanic strength and thickness of core's heat insulation. However, the main factor providing Buffalo sandwich panels with excellent physical and mechanical qualities and well-known advantages is the interaction of these separate components, which is ensured by high-quality adhesive bonding. All Buffalo Sandwich panels are made with reference to Australian Quality standards 1366.3(1992) and Load variability guidelines are followed with respect to EU 14509:2002E.

Span Values for Buffalo EPS - FR Sandwich Wall Panels

Panel Type, Thickness (mm)		Load (kPa)								
		0.5	0.8	1.0	1.3	1.5	1.8	2.0	2.3	2.5
Fr-EPS Wall Panel with 0.35mm external/Internal wall cladding and 24kg/CM Fire Retardent EPS Density.	50	3.9	3.6	3.1	2.6	2.4	2	1.9	1.8	1.7
	75	4.6	4.1	3.7	3.4	3.2	3	2.8	2.7	2.5
	100	5.5	4.8	4.4	4	3.8	3.5	3.3	3.2	3
	125	6.3	5.6	5	4.6	4.3	4.1	3.9	3.7	3.5
	150	7.5	6.6	6	5.5	5.1	4.8	4.6	4.6	4.2
	200	9.3	8.2	7.4	6.8	6.4	6	5.7	5.5	5.2

It is not Recommended to use FR -EPS sandwich core density less than 15kg/CM to use in utmost span length due to the manifested creeping deformation

Span Values for multi -span Buffalo EPS - FR Sandwich Wall Panels

Panel Type, Thickness (mm)		Two-Span panel						
		Load (kPa)						
		0.50	0.75	1.00	1.25	1.50	1.75	2.00
Fr-EPS Wall Panel with 0.35mm external/Internal wall cladding and 24kg/CM Fire Retardent EPS Density.	50	3.8	3.7	3.6	3.5	3.3	3.1	2.7
	75	4.8	4.6	4.5	4.4	4.1	3.6	3.1
	100	5.4	5.2	5.1	5	4.6	3.9	3.4
	125	5.9	5.7	5.5	5.4	5	4.3	3.7
	150	6.6	6.3	6.2	6.1	5.6	4.8	4.2
	200	7.6	7.3	7.1	7	6.5	5.7	5
	Three-span panel							
	Load (kPa)							
	0.50	0.75	1.00	3.40	1.50	1.75	2.00	
	50	3.6	3.5	3.4	3.4	3.3	3.2	2.8
	75	4.5	4.4	4.3	4.2	4.2	3.7	3.2
	100	5	4.9	4.8	4.7	4.7	4.1	3.5
	125	5.5	5.4	5.3	5.2	5.1	4.4	3.8
	150	6.2	6	5.9	5.8	5.7	5	4.3
	200	6.9	6.9	6.8	6.7	6.6	6	5.1

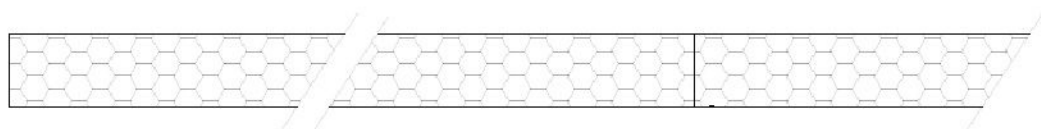
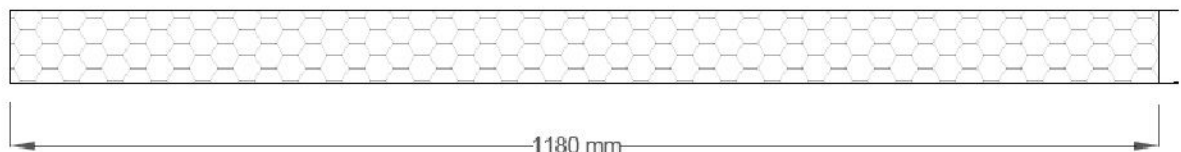
according to maximal deflection rule in calculation of external wall panels it is assumed that L/100, The used intermediate support width is the minimal value – 6 cm.

We have a variety of thicknesses and widths and connection types to choose from

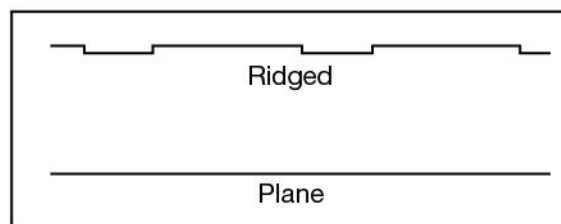
### Buffalo FR-EPS Wall panel with “U” Type Connection

Width – 1000mm / 1200mm

Effective With – 980mm / 1180mm



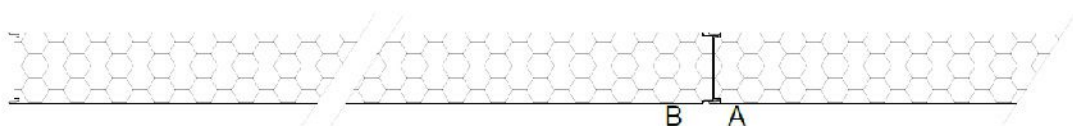
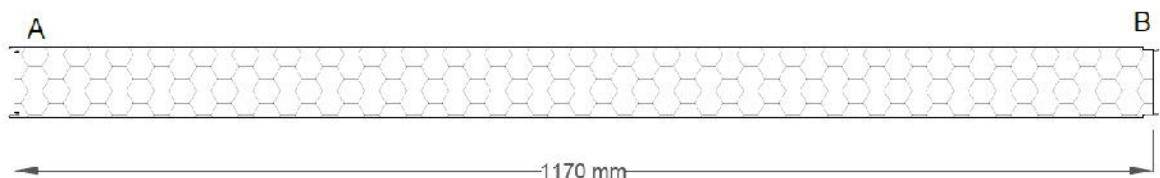
Surface Types to select from



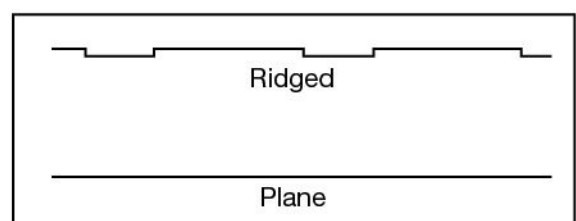
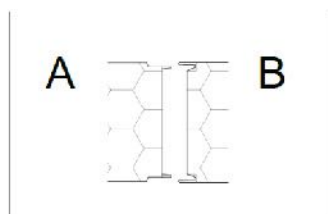
### Buffalo FR-EPS Wall Panel with Z type Connection

Width – 1000mm / 1200mm

Effective Width – 970mm / 1170mm



Surface Types to select from





## SUPERIOR THERMAL INSULATION

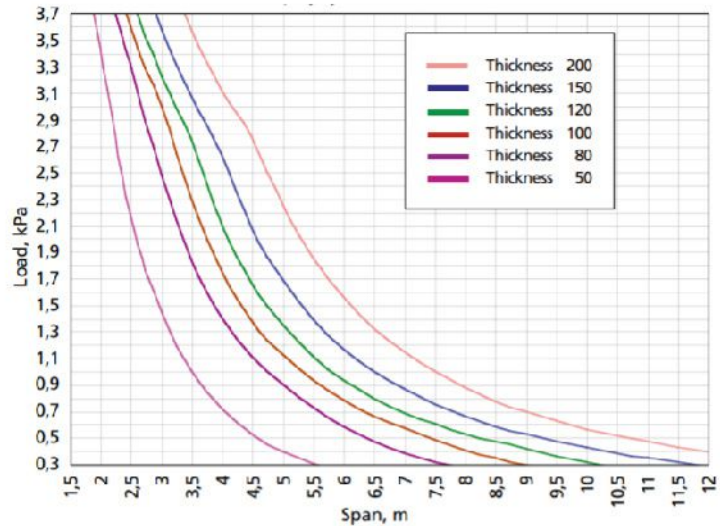
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Span Curve for wall panel 0.35mm cladding thickness. 20kg/m<sup>3</sup> EPS density  
Note- the Curve may vary depending on the Environmental conditions

Deflection of Single-span Panels due to Load

Span(m)	Load (kPa)	Deflection (mm)					
		50	75	100	125	150	200
3	0.3	4	2	1	1	1	1
	0.6	7	3	2	2	1	1
	0.9	11	5	4	3	2	1
4	0.3	10	4	3	2	2	1
	0.6	19	9	6	4	3	2
	0.9	29	13	9	7	5	3
	1.2	-	17	12	7	6	4
	1.5	-	21	15	11	8	5
5	0.3	22	9	6	5	3	2
	0.6	-	19	13	9	6	4
	0.9	-	28	19	14	9	6
	1.2	-	-	25	18	13	8
	1.5	-	-	32	23	16	10
6	0.3	-	18	12	9	6	4
	0.6	-	36	24	17	12	7
	0.9	-	-	36	26	18	11
	1.2	-	-	-	35	24	14
	1.5	-	-	-	-	29	18
7	0.3	-	32	21	15	10	6
	0.6	-	-	43	30	20	12
	0.9	-	-	-	46	31	18
	1.2	-	-	-	-	41	24
	1.5	-	-	-	-	-	31
8	0.3	-	-	35	25	17	10
	0.6	-	-	-	50	33	20
	0.9	-	-	-	-	50	30
	1.2	-	-	-	-	-	40

- the deflection values given in the table must not be used for dimensioning of span values.
- It should be noted that other actions also can influence the total deflections:
- Ambient temperature impact should be combined with sucking wind pressure;
- frontal wind pressure.