



## EQUITONE General Load Tables Commercial Type V | Wood Frame

### 1.0 PRODUCT DESCRIPTION

The EQUITONE system consists of high-density durable fiber cement panels that are supported by a variety of subframing systems. These panels vary in size, texture, and color but are all manufactured from fiber cement material. The EQUITONE material types selected to be analyzed in this report were [natura], [tectiva], and [inspires]. EQUITONE [natura] is air-cured with an acrylic coating for a matte, smooth finish. EQUITONE [tectiva] is autoclaved with sanded lines for a natural finish. EQUITONE [inspires] is air-cured with a digitally printed surface and a UV finishing with equivalent or better mechanical properties to [natura]. For the purpose of this document, EQUITONE [natura] and [tectiva] are referred to as “large-format” panels, while EQUITONE [inspires] is referred to as a “plank” panel.

Large-format panels are broad, rectangular panels that are cut to size for a variety of different uses. They are typically anchored to the supporting structure with regularly spaced fasteners (both horizontal and vertical dimensions are specified). EQUITONE [natura] large-format panels are available as 8mm or 12mm thick, while EQUITONE [tectiva] large-format panels are 8mm or 10mm thick. Their typical application is a rainscreen facade system where the panels are attached to a subframing system behind. The only subframing system analyzed in these tables for large-format panels are timber “battens” that provide an airgap between the panels and the structure.

The fastening systems included in this report are stainless steel and aluminum UNI-Rivets, stainless steel UNI-Metal Screws, Stainless Steel UNI-Wood Screws.

### 2.0 Wind Load

Windload on the Equitone large format panel system is the primary cause of panel stress and deflection, as well as tensile loads on the fasteners. The panel and attachment schemes were analyzed at various wind pressure increments – 10psf [0.478 KPa], 15psf [0.718 KPa], 20psf [0.957 KPa], 30psf [1.436 KPa], 40psf [1.915 KPa], 50psf [2.394 KPa], 60psf [2.872 KPa], 70psf [3.351 KPa], and 80psf [3.830 KPa] (service level wind loadings). Using finite element modeling software, multispans and single span cases were modeled by the Larsen Engineering Group with variables for panel type, fastener type, and wind pressure. Dead load points for UNI-Rivets and UNI-Metal/ UNI- Wood Screws were modeled as fixed points.

## 3.0 LOAD SPAN TABLES

### 3.1 [natura] Panel with UNI-Wood Screws (Wood Blocking/Stud Substrate)

8MM NATURA - UNI-WOOD SCREW							
WIND LOAD (PSF) [KPa]				MULTI-SPAN (IN) [MM]		SINGLE SPAN (IN) [MM]	
ASD		LRFD		SPAN 1	SPAN 2	SPAN 1	SPAN 2
10	[0.478]	16.6	[0.794]	24 [600]	24 [600]	24 [600]	24 [600]
15	[0.718]	25	[1.197]	24 [600]	24 [600]	24 [600]	22 [558]
20	[0.957]	33.3	[1.594]	24 [600]	22 [558]	24 [600]	16 [400]
30	[1.436]	50	[2.394]	22 [558]	16 [400]	20 [508]	16 [400]
40	[1.915]	66.6	[3.188]	20 [508]	16 [400]	18 [457]	16 [400]
50	[2.394]	83.3	[3.988]	20 [508]	12 [304]	18 [457]	12 [304]
60	[2.872]	100	[4.788]	18 [457]	12 [304]	16 [400]	14 [355]
70	[3.351]	116.6	[5.582]	18 [457]	10 [254]	16 [400]	10 [254]
80	[3.830]	133.3	[6.382]	16 [400]	12 [304]	14 [355]	14 [355]

1. Maximum panel-to-wood blocking/studs fastener spacing to be 24" O.C.
2. Panel deflection limit: L/300. A factor of 0.7 has been applied to ASD wind load deflections in accordance with Table 1604.3, Note f of the 2021 International Building Code (IBC).
3. For UNI- Screws, fastener distance from center of anchor to a panel edge parallel to subframing to be 4" maximum & 1 3/16" minimum.
4. For UNI-Screws, fastener distance from center of anchor to a panel edge perpendicular to subframing to be 4" maximum & 2 3/4" minimum.
5. Panel load tables are calculated with 26mm (1-1/32") minimum penetration into Spruce-Pine-Fir wood blocking with minimum specific gravity (G) of 0.42.
6. Fasteners are assumed to be 5.5x40 K15 stainless steel UNI-Screws for wood (5.5mm minimum diameter).
7. Span 1 and Span 2 fastener spacings can be interchanged horizontally and vertically.
8. The performance of the installed system is dependent on the structural adequacy of the subframing which supports the panels and is beyond the 6. scope of this table.
9. The use of these tables may not guarantee full compliance with specific project specifications or local code requirements. A qualified professional should be consulted to certify full conformance with project specific requirements. Larson Engineering and Etex Group assumes no responsibility or liability associated with the use of this table for project specific conditions.

### 3.2 [natura] Panel with UNI-Wood Screws (Timber Batten Substrate)

8MM NATURA - UNI-WOOD SCREW							
WIND LOAD (PSF) [KPa]				MULTI-SPAN (IN) [MM]		SINGLE SPAN (IN) [MM]	
ASD		LRFD		SPAN 1	SPAN 2	SPAN 1	SPAN 2
10	[0.478]	16.6	[0.794]	24 [600]	24 [600]	24 [600]	24 [600]
15	[0.718]	25	[1.197]	24 [600]	24 [600]	24 [600]	22 [558]
20	[0.957]	33.3	[1.594]	24 [600]	22 [558]	24 [600]	16 [400]
30	[1.436]	50	[2.394]	22 [558]	16 [400]	20 [508]	16 [400]
40	[1.915]	66.6	[3.188]	20 [508]	16 [400]	18 [457]	16 [400]
50	[2.394]	83.3	[3.988]	20 [508]	12 [304]	18 [457]	12 [304]
60	[2.872]	100	[4.788]	18 [457]	12 [304]	16 [400]	14 [355]
70	[3.351]	116.6	[5.582]	18 [457]	10 [254]	16 [400]	10 [254]
80	[3.830]	133.3	[6.382]	16 [400]	12 [304]	14 [355]	14 [355]

\*This table is intended to be used for anchorage to timber battens (design of timber battens is within the scope of this report)

1. Maximum panel-to-batten fastener spacing to be 24" O.C.
2. Panel deflection limit: L/300. A factor of 0.7 has been applied to ASD wind load deflections in accordance with Table 1604.3, Note f of the 2021 International Building Code (IBC).
3. For UNI-Wood Screws, fastener distance from center of anchor to a panel edge perpendicular to batten subframing to be 4" maximum & 1 3/16" minimum.
4. For UNI-Wood Screws, fastener distance from center of anchor to a panel edge parallel to batten subframing to be 4" maximum & 2 3/4" minimum.
5. Panel load tables are calculated assuming full fastener penetration into battens.
6. Panel fasteners into battens are assumed to be 5.5x40 K15 stainless steel UNI-Wood Screws (5.5mm minimum diameter).
7. Timber battens are assumed to be No. 3 pressure-treated Southern Yellow Pine 1x4.
8. Fastener timber battens to structure at 8" O.C. maximum.
9. Batten fasteners into 1/2" thick plywood/OSB structure assumed to be #12 stainless steel wood screws (300 Series, Condition A) or better with full 1/2" penetration.
10. Battens are oriented vertically.
11. Stack shims with a total of 3/8" maximum thickness and matching the full width of batten may be used in between battens and plywood/OSB structure.
12. Span 1 and Span 2 fastener spacings can be interchanged horizontally and vertically.
13. The performance of the installed large-format panel system is dependent on the structural adequacy of the backup structure which supports the battens and is beyond the scope of this report.
14. The use of these tables may not guarantee full compliance with specific project specifications or local code requirements. A qualified professional should be consulted to certify full conformance with project specific requirements. Larson Engineering assumes no responsibility or liability associated with the use of this table for project specific conditions.

## 3.3 [tectiva] Panel with UNI-Wood Screws (Wood Blacking/ Stud Substrate)

8MM TECTIVA - UNI-WOOD SCREW							
WIND LOAD (PSF) [KPa]				MULTI-SPAN (IN) [MM]		SINGLE SPAN (IN) [MM]	
ASD	LRFD			SPAN 1	SPAN 2	SPAN 1	SPAN 2
10	[0.478]	16.6	[0.794]	24	[600]	24	[600]
15	[0.718]	25	[1.197]	24	[600]	24	[600]
20	[0.957]	33.3	[1.594]	24	[600]	24	[600]
30	[1.436]	50	[2.394]	24	[600]	22	[558]
40	[1.915]	66.6	[3.188]	22	[558]	20	[508]
50	[2.394]	83.3	[3.988]	20	[508]	18	[457]
60	[2.872]	100	[4.788]	18	[457]	18	[457]
70	[3.351]	116.6	[5.582]	18	[457]	16	[400]
80	[3.830]	133.3	[6.382]	18	[457]	16	[400]

1. Maximum panel-to-wood blocking/studs fastener spacing to be 24" O.C.
2. Panel deflection limit: L/300. A factor of 0.7 has been applied to ASD wind load deflections in accordance with Table 1604.3, Note f of the 2021 International Building Code (IBC).
3. For UNI- Screws, fastener distance from center of anchor to a panel edge parallel to subframing to be 4" maximum & 1 3/16" minimum.
4. For UNI-Screws, fastener distance from center of anchor to a panel edge perpendicular to subframing to be 4" maximum & 2 3/4" minimum.
5. Panel load tables are calculated with 26mm (1-1/32") minimum penetration into Spruce-Pine-Fir wood blocking with minimum specific gravity (G) of 0.42.
6. Fasteners are assumed to be 5.5x40 K15 stainless steel UNI-Screws for wood (5.5mm minimum diameter).
7. Span 1 and Span 2 fastener spacings can be interchanged horizontally and vertically.
8. The performance of the installed system is dependent on the structural adequacy of the subframing which supports the panels and is beyond the 6. scope of this table.
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### 3.4 [tectiva] Panel with UNI-Wood Screws (Timber Batten Substrate)

8MM TECTIVA - UNI-WOOD SCREW							
WIND LOAD (PSF) [KPa]		MULTI-SPAN (IN) [MM]		SINGLE SPAN (IN) [MM]			
ASD	LRFD	SPAN 1	SPAN 2	SPAN 1	SPAN 2		
10	[0.478]	16.6	[0.794]	24	[600]	24	[600]
15	[0.718]	25	[1.197]	24	[600]	24	[600]
20	[0.957]	33.3	[1.594]	24	[600]	24	[600]
30	[1.436]	50	[2.394]	24	[600]	18	[457]
40	[1.915]	66.6	[3.188]	22	[558]	14	[355]
50	[2.394]	83.3	[3.988]	20	[508]	14	[355]
60	[2.872]	100	[4.788]	18	[457]	14	[355]
70	[3.351]	116.6	[5.582]	18	[457]	12	[304]
80	[3.830]	133.3	[6.382]	18	[457]	12	[304]

\*This table is intended to be used for anchorage to timber battens (design of timber battens is within the scope of this report)

1. Maximum panel-to-batten fastener spacing to be 24" O.C.
2. Panel deflection limit: L/300. A factor of 0.7 has been applied to ASD wind load deflections in accordance with Table 1604.3, Note f of the 2021 International Building Code (IBC).
3. For UNI-Wood Screws, fastener distance from center of anchor to a panel edge perpendicular to batten subframing to be 4" maximum & 1 3/16" minimum.
4. For UNI-Wood Screws, fastener distance from center of anchor to a panel edge parallel to batten subframing to be 4" maximum & 2 3/4" minimum.
5. Panel load tables are calculated assuming full fastener penetration into battens.
6. Panel fasteners into battens are assumed to be 5.5x40 K15 stainless steel UNI-Wood Screws (5.5mm minimum diameter).
7. Timber battens are assumed to be No. 3 pressure-treated Southern Yellow Pine 1x4.
8. Fastener timber battens to structure at 8" O.C. maximum.
9. Batten fasteners into 1/2" thick plywood/OSB structure assumed to be #12 stainless steel wood screws (300 Series, Condition A) or better with full 1/2" penetration.
10. Battens are oriented vertically.
11. Stack shims with a total of 3/8" maximum thickness and matching the full width of batten may be used in between battens and plywood/OSB structure.
12. Span 1 and Span 2 fastener spacings can be interchanged horizontally and vertically.
13. The performance of the installed large-format panel system is dependent on the structural adequacy of the backup structure which supports the battens and is beyond the scope of this report.
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Contact :

 [www.equitone.com](http://www.equitone.com)

USA/Canada  
1731 Fred Lawson Dr.  
Maryville TN, 37801  
Tel: +1 865 268 0654  
E-mail: [info.usa@equitone.com](mailto:info.usa@equitone.com)

<http://www.equitone.com/en-us/>  
<http://www.equitone.com/en-ca/>

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