

# ICC-ES Evaluation Report

**ESR-5449**

Issued October 2024


Subject to renewal October 2025

This report also contains:

- [City of LA Supplement](#)
- [CA Supplement w/ DSA, OSHPD and Exterior Wildfire Exposure](#)
- [FL Supplement w/ HVHZ](#)

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<p><b>DIVISION: 05 00 00 - METALS</b></p> <p><b>Section: 05 50 00 – Metal Fabrications</b></p>	<p><b>REPORT HOLDER:</b></p> <p><b>ARCHITECTURAL METAL SOLUTIONS LLC</b> <b>DBA: LUMABUILT</b></p>	<p><b>EVALUATION SUBJECT:</b></p> <p><b>MOSAIC BATTENS</b></p>	
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## 1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2024 and 2021 [International Building Code® \(IBC\)](#)

Property evaluated:

- Structural
- Surface burning characteristics
- Noncombustibility

## 2.0 USES

The Mosaic Battens are used in exterior and/or interior applications such as sunshades, grilles, privacy screens, signage, decorative elements, screen walls and fencing, as applicable. The Mosaic Battens can be used on any type of construction as defined in Chapter 6 of the IBC.

## 3.0 DESCRIPTION

The Mosaic Battens consist of aluminium extrusions available as tube members or as interlocking elements that assemble into tube members. The Mosaic Battens have several powder coated paint finishes, and include aluminium press fit or pre-punched end caps. See [Figure 1](#) for additional information.

The Mosaic Battens are manufactured from 6063 T6 aluminium. Based on testing in accordance with ASTM E136, they are non-combustible. When tested in accordance with ASTM E84, the powder coated Mosaic Battens have a flame spread index of less than 25, and a smoke-developed index of less than 450. The Mosaic Battens with the powder coating are composite materials in accordance with IBC Section 703.3 and are acceptable as non-combustible materials. The Mosaic Battens with powder coating also meet the requirements for a Class A interior finish in accordance with IBC Section 803.1.2.

The Mosaic Battens are available in lengths up to 24 feet (7315 mm). See [Figure 2](#) for typical profiles.

## 4.0 DESIGN AND INSTALLATION

### 4.1 General:

Design and installation of the Mosaic Battens must be in accordance with this evaluation report, the applicable code provisions, and the report holder's published installation instructions.

## 4.2 Design:

[Table 1](#) summarizes the section properties of tube members (solid and assemblies). [Table 2](#) provides total allowable design loads for the tube members, intended for Allowable Stress Design (ASD) method. For tube members that are assembled, the interlocking mechanism between the elements has not been evaluated and is outside the scope of this report.

## 4.3 Installation:

The report holder's installation instructions must be available at the jobsite at all times during installation.

## 5.0 CONDITIONS OF USE:

The Mosaic Battens described in this report comply with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, provided the installation complies with this report, subject to the following conditions:

- 5.1 Calculations and construction documents verifying compliance with applicable code provisions and this report, must be submitted to the code official for each project. A registered design professional must seal the calculations and construction documents where required by the statutes of the jurisdiction in which the project is to be constructed.
- 5.2 Design of the supports and the corresponding connection and/or anchorage for the Mosaic Battens is outside the scope of this report.
- 5.3 Design values for assembled tube members do not consider the interlocking mechanism between the elements. The interlocking mechanism must be justified to resist the applied loads to the satisfaction of the building official.
- 5.4 Installation must comply with the requirements of the applicable code, this report and the manufacturer's published installation instructions. In the event of conflict between this report and the manufacturer's published installation instructions, this report governs.
- 5.5 The Mosaic Battens are manufactured under a quality control system with inspections by ICC-ES.

## 6.0 EVIDENCE SUBMITTED

- 6.1 Manufacturer's product specification literature and published installation instructions.
- 6.2 Structural calculations based on Aluminum Design Manual.
- 6.3 Data in accordance with Florida TAS 202-94 and TAS 203-94.
- 6.4 Data in accordance with ASTM E84.
- 6.5 Data in accordance with ASTM E136.
- 6.6 Quality documentation in accordance with [ICC-ES Acceptance Criteria for Quality Documentation \(AC10\)](#)

## 7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-5449) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.
- 7.2 In addition, the Mosaic Battens are identified with a label that includes the report holder's address, serial number and production dates.
- 7.3 The report holder's contact information is the following:

**ARCHITECTURAL METAL SOLUTIONS LLC**  
**DBA: LUMABUILT**  
**2529 W. JACKSON ST.**  
**PHOENIX, AZ 85009**  
**(602) 275-1676**  
[www.lumabuilt.com](http://www.lumabuilt.com)

TABLE 1 – MOSAIC BATTENS SECTION PROPERTIES

PART	AREA (in <sup>2</sup> )	WEIGHT (lbs/ft)	I <sub>x</sub> (in <sup>4</sup> )	S <sub>x</sub> (in <sup>3</sup> )	I <sub>y</sub> (in <sup>4</sup> )	S <sub>y</sub> (in <sup>3</sup> )
1 x 3 solid Batten	0.594	0.716	0.685	0.457	0.093	0.186
1 x 4 solid Batten	0.724	0.869	1.419	0.710	0.122	0.243
1 x 5 solid Batten	0.854	1.025	2.516	1.006	0.150	0.300
1 x 6 solid Batten	0.984	1.180	4.039	1.346	0.179	0.357
1 x 8 solid Batten	1.663	1.947	10.791	2.696	0.288	0.577
2 x 8 solid Batten	1.986	2.934	13.877	3.469	1.349	1.349
4 x 10.75 Cee Fin	4.083	4.898	53.473	9.097	11.892	5.946
1 x 3 L connect Batten	0.844	1.013	0.984	0.656	0.127	0.254
1 x 4 L connect Batten	1.005	1.205	2.047	1.022	0.161	0.321
1 x 5 L connect Batten	1.174	1.396	3.722	1.469	0.197	0.394
1 x 6 L connect Batten	1.333	1.586	5.904	1.947	0.231	0.461
2 x 2 snap fit Batten	0.911	1.066	0.359	0.266	0.528	0.545
2 x 3 snap fit Batten	1.116	1.305	0.772	0.435	0.699	0.717
2 x 6 snap fit Batten	1.717	2.009	4.536	1.429	1.165	1.183
2 x 8 snap fit Batten	2.185	2.556	10.141	2.406	1.502	1.519
2 x 10 Batten assembly	2.809	3.670	23.812	4.560	1.961	1.961
2 x 12 Batten assembly	3.249	4.860	37.783	6.288	2.279	2.279
2 x 14 Batten assembly	3.947	4.960	62.494	8.779	2.819	2.813
4 x 2 snap fit Batten	1.249	1.500	2.924	1.462	0.760	0.702
4 x 8 L connect Batten	2.630	3.156	23.996	6.000	7.637	3.819
6 x 1 snap fit Batten	1.331	1.597	5.599	1.867	0.223	0.403

For SI: 1 inch = 25.4 mm; 1 lb = 4.45 N; 1 foot = 0.3048 m

TABLE 2 – MOSAIC BATTENS TOTAL ALLOWABLE DESIGN LOADS<sup>1,2,3,4</sup>

## 1 x 3 solid Batten

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	74 psf (258 lbs)	65 psf (258 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	51 psf (115 lbs)	38 psf (115 lbs)	31 psf (115 lbs)	26 psf (115 lbs)	22 psf (115 lbs)	19 psf (115 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	68 psf (476 lbs)	59 psf (476 lbs)
	Weak (Y)	32 psf (65 lbs)	22 psf (65 lbs)	16 psf (65 lbs)	13 psf (65 lbs)	11 psf (65 lbs)	9 psf (65 lbs)	8 psf (65 lbs)
60	Strong (X)	75 psf (188 lbs)	75 psf (281 lbs)	61 psf (304 lbs)	49 psf (304 lbs)	41 psf (304 lbs)	35 psf (304 lbs)	30 psf (304 lbs)
	Weak (Y)	17 psf (94 lbs)	11 psf (41 lbs)	8 psf (41 lbs)	7 psf (41 lbs)	6 psf (41 lbs)	5 psf (41 lbs)	4 psf (41 lbs)
72	Strong (X)	70 psf (211 lbs)	47 psf (211 lbs)	35 psf (211 lbs)	28 psf (211 lbs)	23 psf (211 lbs)	20 psf (211 lbs)	18 psf (211 lbs)
	Weak (Y)	10 psf (29 lbs)	6 psf (29 lbs)	5 psf (29 lbs)	4 psf (29 lbs)	3 psf (29 lbs)	3 psf (29 lbs)	2 psf (29 lbs)
84	Strong (X)	44 psf (155 lbs)	30 psf (155 lbs)	22 psf (155 lbs)	18 psf (155 lbs)	15 psf (155 lbs)	13 psf (155 lbs)	11 psf (155 lbs)
	Weak (Y)	6 psf (21 lbs)	4 psf (21 lbs)	3 psf (21 lbs)	2 psf (21 lbs)	2 psf (21 lbs)	2 psf (21 lbs)	2 psf (21 lbs)
96	Strong (X)	30 psf (119 lbs)	20 psf (119 lbs)	15 psf (119 lbs)	12 psf (119 lbs)	10 psf (119 lbs)	8 psf (119 lbs)	7 psf (119 lbs)
	Weak (Y)	4 psf (16 lbs)	3 psf (16 lbs)	2 psf (16 lbs)	2 psf (16 lbs)	1 psf (16 lbs)	1 psf (16 lbs)	1 psf (16 lbs)
108	Strong (X)	21 psf (94 lbs)	14 psf (94 lbs)	10 psf (94 lbs)	8 psf (94 lbs)	7 psf (94 lbs)	6 psf (94 lbs)	5 psf (94 lbs)
	Weak (Y)	3 psf (13 lbs)	2 psf (13 lbs)	1 psf (13 lbs)	1 psf (13 lbs)	1 psf (13 lbs)	1 psf (13 lbs)	1 psf (13 lbs)
120	Strong (X)	15 psf (76 lbs)	10 psf (76 lbs)	8 psf (76 lbs)	6 psf (76 lbs)	5 psf (76 lbs)	4 psf (76 lbs)	4 psf (76 lbs)
	Weak (Y)	2 psf (10 lbs)	1 psf (10 lbs)	1 psf (10 lbs)	1 psf (10 lbs)	1 psf (10 lbs)	1 psf (10 lbs)	1 psf (10 lbs)

For SI: 1 inch = 25.4 mm; 1 lb = 4.45 N; 1 psf = 0.0478 kPa

<sup>1</sup> Design loads are limited to 75 psf max.

<sup>2</sup> Member allowable end reaction is indicated in ( )

<sup>3</sup> Allowable design loads are based on flexural yielding limit state. Evaluation based on shear failure or other flexural limit states is outside the scope of this report.

<sup>4</sup> The interlocking mechanism in assembled tube elements (non-solid) has not been evaluated and is outside the scope of this report.

<sup>5</sup> Orientation of the batten. Strong is beam orientation. Weak is flat orientation.

<sup>6</sup> Width for which the allowable design load can be applied.

TABLE 2 – MOSAIC BATTENS TOTAL ALLOWABLE DESIGN LOADS<sup>1,2,3,4</sup> (continued)

## 1 x 4 solid Batten

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	67 psf (151 lbs)	50 psf (151 lbs)	40 psf (151 lbs)	33 psf (151 lbs)	29 psf (151 lbs)	25 psf (151 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	42 psf (85 lbs)	28 psf (85 lbs)	21 psf (85 lbs)	17 psf (85 lbs)	14 psf (85 lbs)	12 psf (85 lbs)	11 psf (85 lbs)
60	Strong (X)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	72 psf (631 lbs)	63 psf (631 lbs)
	Weak (Y)	22 psf (54 lbs)	14 psf (54 lbs)	11 psf (54 lbs)	9 psf (54 lbs)	7 psf (54 lbs)	6 psf (54 lbs)	5 psf (54 lbs)
72	Strong (X)	75 psf (225 lbs)	75 psf (338 lbs)	73 psf (438 lbs)	58 psf (438 lbs)	49 psf (438 lbs)	42 psf (438 lbs)	36 psf (438 lbs)
	Weak (Y)	13 psf (38 lbs)	8 psf (38 lbs)	6 psf (38 lbs)	5 psf (38 lbs)	4 psf (38 lbs)	4 psf (38 lbs)	3 psf (38 lbs)
84	Strong (X)	75 psf (263 lbs)	61 psf (322 lbs)	46 psf (322 lbs)	37 psf (322 lbs)	31 psf (322 lbs)	26 psf (322 lbs)	23 psf (322 lbs)
	Weak (Y)	8 psf (28 lbs)	5 psf (28 lbs)	4 psf (28 lbs)	3 psf (28 lbs)	3 psf (28 lbs)	2 psf (28 lbs)	2 psf (28 lbs)
96	Strong (X)	62 psf (246 lbs)	41 psf (246 lbs)	31 psf (246 lbs)	25 psf (246 lbs)	21 psf (246 lbs)	18 psf (246 lbs)	15 psf (246 lbs)
	Weak (Y)	5 psf (21 lbs)	4 psf (21 lbs)	3 psf (21 lbs)	2 psf (21 lbs)	2 psf (21 lbs)	2 psf (21 lbs)	1 psf (21 lbs)
108	Strong (X)	43 psf (195 lbs)	29 psf (195 lbs)	22 psf (195 lbs)	17 psf (195 lbs)	14 psf (195 lbs)	12 psf (195 lbs)	11 psf (195 lbs)
	Weak (Y)	4 psf (17 lbs)	2 psf (17 lbs)	2 psf (17 lbs)	1 psf (17 lbs)	1 psf (17 lbs)	1 psf (17 lbs)	1 psf (17 lbs)
120	Strong (X)	32 psf (158 lbs)	21 psf (158 lbs)	16 psf (158 lbs)	13 psf (158 lbs)	11 psf (158 lbs)	9 psf (158 lbs)	8 psf (158 lbs)
	Weak (Y)	3 psf (14 lbs)	2 psf (14 lbs)	1 psf (14 lbs)	1 psf (14 lbs)	1 psf (14 lbs)	1 (14 lbs)	1 psf (14 lbs)

## 1 x 5 solid Batten

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	62 psf (185 lbs)	49 psf (185 lbs)	41 psf (185 lbs)	35 psf (185 lbs)	31 psf (185 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	52 psf (104 lbs)	35 psf (104 lbs)	26 psf (104 lbs)	2.1 psf (104 lbs)	17 psf (104 lbs)	15 psf (104 lbs)	13 psf (104 lbs)
60	Strong (X)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
	Weak (Y)	27 psf (67 lbs)	18 psf (67 lbs)	13 psf (67 lbs)	11 psf (67 lbs)	9 psf (67 lbs)	8 psf (67 lbs)	7 psf (67 lbs)
72	Strong (X)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	74 psf (777 lbs)	65 psf (777 lbs)
	Weak (Y)	15 psf (46 lbs)	10 psf (46 lbs)	8 psf (46 lbs)	6 psf (46 lbs)	5 psf (46 lbs)	4 psf (46 lbs)	4 psf (46 lbs)
84	Strong (X)	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	65 psf (571 lbs)	54 psf (571 lbs)	47 psf (571 lbs)	41 psf (571 lbs)
	Weak (Y)	10 psf (34 lbs)	6 psf (34 lbs)	5 psf (34 lbs)	4 psf (34 lbs)	3 psf (34 lbs)	3 psf (34 lbs)	2 psf (34 lbs)
96	Strong (X)	75 psf (300 lbs)	73 psf (437 lbs)	55 psf (437 lbs)	44 psf (437 lbs)	36 psf (437 lbs)	31 psf (437 lbs)	27 psf (437 lbs)
	Weak (Y)	7 psf (26 lbs)	4 psf (26 lbs)	3 psf (26 lbs)	3 psf (26 lbs)	2 psf (26 lbs)	2 psf (26 lbs)	2 psf (26 lbs)
108	Strong (X)	75 psf (338 lbs)	51 psf (345 lbs)	38 psf (345 lbs)	31 psf (345 lbs)	26 psf (345 lbs)	22 psf (345 lbs)	19 psf (345 lbs)
	Weak (Y)	5 psf (21 lbs)	3 psf (21 lbs)	2 psf (21 lbs)	2 psf (21 lbs)	2 psf (21 lbs)	1 psf (21 lbs)	1 psf (21 lbs)
120	Strong (X)	56 psf (280 lbs)	37 psf (280 lbs)	28 psf (280 lbs)	22 psf (280 lbs)	19 psf (280 lbs)	16 psf (280 lbs)	14 psf (280 lbs)
	Weak (Y)	3 psf (17 lbs)	2 psf (17 lbs)	2 psf (17 lbs)	1 psf (17 lbs)	1 psf (17 lbs)	1 psf (17 lbs)	1 psf (17 lbs)

## 1 x 6 solid Batten

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	74 psf (221 lbs)	59 psf (221 lbs)	49 psf (221 lbs)	42 psf (221 lbs)	37 psf (221 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	62 psf (124 lbs)	41 psf (124 lbs)	31 psf (124 lbs)	25 psf (124 lbs)	21 psf (124 lbs)	18 psf (124 lbs)	16 psf (124 lbs)
60	Strong (X)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
	Weak (Y)	32 psf (80 lbs)	21 psf (80 lbs)	16 psf (80 lbs)	13 psf (80 lbs)	11 psf (80 lbs)	9 psf (80 lbs)	8 psf (80 lbs)
72	Strong (X)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	75 psf (788 lbs)	75 psf (900 lbs)
	Weak (Y)	18 psf (55 lbs)	12 psf (55 lbs)	9 psf (55 lbs)	7 psf (55 lbs)	6 psf (55 lbs)	5 psf (55 lbs)	5 psf (55 lbs)
84	Strong (X)	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	75 psf (656 lbs)	75 psf (788 lbs)	75 psf (916 lbs)	65 psf (916 lbs)
	Weak (Y)	12 psf (41 lbs)	8 psf (41 lbs)	6 psf (41 lbs)	5 psf (41 lbs)	4 psf (41 lbs)	3 psf (41 lbs)	3 psf (41 lbs)
96	Strong (X)	75 psf (300 lbs)	75 psf (450 lbs)	75 psf (600 lbs)	70 psf (701 lbs)	58 psf (701 lbs)	50 psf (701 lbs)	44 psf (701 lbs)
	Weak (Y)	8 psf (31 lbs)	5 psf (31 lbs)	4 psf (31 lbs)	3 psf (31 lbs)	3 psf (31 lbs)	2 psf (31 lbs)	2 psf (31 lbs)
108	Strong (X)	75 psf (338 lbs)	75 psf (506 lbs)	62 psf (554 lbs)	49 psf (554 lbs)	41 psf (554 lbs)	35 psf (554 lbs)	31 psf (554 lbs)
	Weak (Y)	5 psf (25 lbs)	4 psf (25 lbs)	3 psf (25 lbs)	2 psf (25 lbs)	2 psf (25 lbs)	2 psf (25 lbs)	1 psf (25 lbs)
120	Strong (X)	75 psf (375 lbs)	60 psf (449 lbs)	45 psf (449 lbs)	36 psf (449 lbs)	30 psf (449 lbs)	26 psf (449 lbs)	22 psf (449 lbs)
	Weak (Y)	4 psf (20 lbs)	3 psf (20 lbs)	2 psf (20 lbs)	2 psf (20 lbs)	1 psf (20 lbs)	1 psf (20 lbs)	1 psf (20 lbs)

For SI: 1 inch = 25.4 mm; 1 lb = 4.45 N; 1 psf = 0.0478 kPa

<sup>1</sup> Design loads are limited to 75 psf max.<sup>2</sup> Member allowable end reaction is indicated in ( )<sup>3</sup> Allowable design loads are based on flexural yielding limit state. Evaluation based on shear failure or other flexural limit states is outside the scope of this report.<sup>4</sup> The interlocking mechanism in assembled tube elements (non-solid) has not been evaluated and is outside the scope of this report.<sup>5</sup> Orientation of the batten. Strong is beam orientation. Weak is flat orientation.<sup>6</sup> Width for which the allowable design load can be applied.

TABLE 2 – MOSAIC BATTENS TOTAL ALLOWABLE DESIGN LOADS<sup>1,2,3,4</sup> (continued)

## 1 x 8 solid Batten

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	68 psf (356 lbs)	59 psf (356 lbs)
48	Strong	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	75 psf (150 lbs)	67 psf (200 lbs)	50 psf (200 lbs)	40 psf (200 lbs)	33 psf (200 lbs)	2.9 psf (200 lbs)	25 psf (200 lbs)
60	Strong	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
	Weak (Y)	51 psf (128 lbs)	34 psf (128 lbs)	26 psf (128 lbs)	20 psf (128 lbs)	17 psf (128 lbs)	15 psf (128 lbs)	13 psf (128 lbs)
72	Strong	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	75 psf (788 lbs)	75 psf (900 lbs)
	Weak (Y)	30 psf (89 lbs)	20 psf (89 lbs)	15 psf (89 lbs)	12 psf (89 lbs)	10 psf (89 lbs)	8 psf (89 lbs)	7 psf (89 lbs)
84	Strong	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	75 psf (656 lbs)	75 psf (788 lbs)	75 psf (919 lbs)	75 psf (1050 lbs)
	Weak (Y)	19 psf (65 lbs)	12 psf (65 lbs)	9 psf (65 lbs)	7 psf (65 lbs)	6 psf (65 lbs)	5 psf (65 lbs)	5 psf (65 lbs)
96	Strong	75 psf (300 lbs)	75 psf (450 lbs)	75 psf (600 lbs)	75 psf (750 lbs)	75 psf (900 lbs)	75 psf (1050 lbs)	75 psf (1200 lbs)
	Weak (Y)	13 psf (50 lbs)	8 psf (50 lbs)	6 psf (50 lbs)	5 psf (50 lbs)	4 psf (50 lbs)	4 psf (50 lbs)	3 psf (50 lbs)
108	Strong	75 psf (338 lbs)	75 psf (506 lbs)	75 psf (675 lbs)	75 psf (844 lbs)	75 psf (1013 lbs)	75 psf (1181 lbs)	75 psf (1350 lbs)
	Weak (Y)	9 psf (40 lbs)	6 psf (40 lbs)	4 psf (40 lbs)	4 psf (40 lbs)	3 psf (40 lbs)	3 psf (40 lbs)	2 psf (40 lbs)
120	Strong	75 psf (375 lbs)	75 psf (563 lbs)	75 psf (750 lbs)	75 psf (938 lbs)	75 psf (1125 lbs)	69 psf (1199 lbs)	60 psf (1199 lbs)
	Weak (Y)	6 psf (32 lbs)	4 psf (32 lbs)	3 psf (32 lbs)	3 psf (32 lbs)	2 psf (32 lbs)	2 psf (32 lbs)	2 psf (32 lbs)

## 2 x 8 solid Batten

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
48	Strong	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
60	Strong	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
	Weak (Y)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	69 psf (600 lbs)	60 psf (600 lbs)
72	Strong	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	75 psf (788 lbs)	75 psf (900 lbs)
	Weak (Y)	75 psf (225 lbs)	75 psf (338 lbs)	69 psf (416 lbs)	56 psf (416 lbs)	46 psf (416 lbs)	40 psf (416 lbs)	35 psf (416 lbs)
84	Strong	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	75 psf (656 lbs)	75 psf (788 lbs)	75 psf (919 lbs)	75 psf (1050 lbs)
	Weak (Y)	75 psf (263 lbs)	58 psf (306 lbs)	44 psf (306 lbs)	35 psf (306 lbs)	29 psf (306 lbs)	25 psf (306 lbs)	22 psf (306 lbs)
96	Strong	75 psf (300 lbs)	75 psf (450 lbs)	75 psf (600 lbs)	75 psf (750 lbs)	75 psf (900 lbs)	75 psf (1050 lbs)	75 psf (1200 lbs)
	Weak (Y)	59 psf (234 lbs)	39 psf (234 lbs)	29 psf (234 lbs)	23 psf (234 lbs)	20 psf (234 lbs)	17 psf (234 lbs)	15 psf (234 lbs)
108	Strong	75 psf (338 lbs)	75 psf (506 lbs)	75 psf (675 lbs)	75 psf (844 lbs)	75 psf (1013 lbs)	75 psf (1181 lbs)	75 psf (1350 lbs)
	Weak (Y)	41 psf (185 lbs)	27 psf (185 lbs)	21 psf (185 lbs)	16 psf (185 lbs)	14 psf (185 lbs)	12 psf (185 lbs)	10 psf (185 lbs)
120	Strong	75 psf (375 lbs)	75 psf (563 lbs)	75 psf (750 lbs)	75 psf (938 lbs)	75 psf (1125 lbs)	75 psf (1313 lbs)	75 psf (1500 lbs)
	Weak (Y)	30 psf (150 lbs)	20 psf (150 lbs)	15 psf (150 lbs)	12 psf (150 lbs)	10 psf (150 lbs)	9 psf (150 lbs)	7 psf (150 lbs)

## 4 x 10.75 Cee Fin

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
48	Strong	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
60	Strong	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
	Weak (Y)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
72	Strong	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	75 psf (788 lbs)	75 psf (900 lbs)
	Weak (Y)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	75 psf (788 lbs)	75 psf (900 lbs)
84	Strong	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	75 psf (656 lbs)	75 psf (788 lbs)	75 psf (919 lbs)	75 psf (1050 lbs)
	Weak (Y)	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	75 psf (656 lbs)	75 psf (788 lbs)	75 psf (919 lbs)	75 psf (1050 lbs)
96	Strong	75 psf (300 lbs)	75 psf (450 lbs)	75 psf (600 lbs)	75 psf (750 lbs)	75 psf (900 lbs)	75 psf (1050 lbs)	75 psf (1200 lbs)
	Weak (Y)	75 psf (300 lbs)	75 psf (450 lbs)	75 psf (600 lbs)	75 psf (750 lbs)	75 psf (900 lbs)	75 psf (1050 lbs)	75 psf (1200 lbs)
108	Strong	75 psf (338 lbs)	75 psf (506 lbs)	75 psf (675 lbs)	75 psf (844 lbs)	75 psf (1013 lbs)	75 psf (1181 lbs)	75 psf (1350 lbs)
	Weak (Y)	75 psf (338 lbs)	75 psf (506 lbs)	75 psf (675 lbs)	75 psf (844 lbs)	75 psf (1013 lbs)	75 psf (1181 lbs)	75 psf (1350 lbs)
120	Strong	75 psf (375 lbs)	75 psf (563 lbs)	75 psf (750 lbs)	75 psf (938 lbs)	75 psf (1125 lbs)	75 psf (1313 lbs)	75 psf (1500 lbs)
	Weak (Y)	75 psf (375 lbs)	75 psf (563 lbs)	75 psf (750 lbs)	75 psf (938 lbs)	75 psf (1125 lbs)	75 psf (1313 lbs)	66 psf (1321 lbs)

For SI: 1 inch = 25.4 mm; 1 lb = 4.45 N; 1 psf = 0.0478 kPa

<sup>1</sup> Design loads are limited to 75 psf max.<sup>2</sup> Member allowable end reaction is indicated in ( )<sup>3</sup> Allowable design loads are based on flexural yielding limit state. Evaluation based on shear failure or other flexural limit states is outside the scope of this report.<sup>4</sup> The interlocking mechanism in assembled tube elements (non-solid) has not been evaluated and is outside the scope of this report.<sup>5</sup> Orientation of the batten. Strong is beam orientation. Weak is flat orientation.<sup>6</sup> Width for which the allowable design load can be applied.

TABLE 2 – MOSAIC BATTENS TOTAL ALLOWABLE DESIGN LOADS<sup>1,2,3,4</sup> (continued)

## 1 x 3 L connect Batten

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	70 psf (157 lbs)	52 psf (157 lbs)	42 psf (157 lbs)	35 psf (157 lbs)	30 psf (157 lbs)	26 psf (157 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	44 psf (88 lbs)	29 psf (88 lbs)	22 psf (88 lbs)	18 psf (88 lbs)	15 psf (88 lbs)	13 psf (88 lbs)	11 psf (88 lbs)
60	Strong (X)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	70 psf (437 lbs)	58 psf (437 lbs)	50 psf (437 lbs)	44 psf (437 lbs)
	Weak (Y)	23 psf (56 lbs)	15 psf (56 lbs)	11 psf (56 lbs)	9 psf (56 lbs)	8 psf (56 lbs)	6 psf (56 lbs)	6 psf (56 lbs)
72	Strong (X)	75 psf (225 lbs)	67 psf (304 lbs)	51 psf (304 lbs)	40 psf (304 lbs)	34 psf (304 lbs)	29 psf (304 lbs)	25 psf (304 lbs)
	Weak (Y)	13 psf (39 lbs)	9 psf (39 lbs)	7 psf (39 lbs)	5 psf (39 lbs)	4 psf (39 lbs)	4 psf (39 lbs)	3 psf (39 lbs)
84	Strong (X)	64 psf (223 lbs)	43 psf (223 lbs)	32 psf (223 lbs)	26 psf (223 lbs)	21 psf (223 lbs)	18 psf (223 lbs)	16 psf (223 lbs)
	Weak (Y)	8 psf (29 lbs)	5 psf (29 lbs)	4 psf (29 lbs)	3 psf (29 lbs)	3 psf (29 lbs)	2 psf (29 lbs)	2 psf (29 lbs)
96	Strong (X)	43 psf (171 lbs)	28 psf (171 lbs)	21 psf (171 lbs)	17 psf (171 lbs)	14 psf (171 lbs)	12 psf (171 lbs)	11 psf (171 lbs)
	Weak (Y)	6 psf (22 lbs)	4 psf (22 lbs)	3 psf (22 lbs)	2 psf (22 lbs)	2 psf (22 lbs)	2 psf (22 lbs)	1 psf (22 lbs)
108	Strong (X)	30 psf (135 lbs)	20 psf (135 lbs)	15 psf (135 lbs)	12 psf (135 lbs)	10 psf (135 lbs)	9 psf (135 lbs)	7 psf (135 lbs)
	Weak (Y)	4 psf (17 lbs)	3 psf (17 lbs)	2 psf (17 lbs)	2 psf (17 lbs)	1 psf (17 lbs)	1 psf (17 lbs)	1 psf (17 lbs)
120	Strong (X)	22 psf (109 lbs)	15 psf (109 lbs)	11 psf (109 lbs)	9 psf (109 lbs)	7 psf (109 lbs)	6 psf (109 lbs)	5 psf (109 lbs)
	Weak (Y)	3 psf (14 lbs)	2 psf (14 lbs)	1 psf (14 lbs)	1 psf (14 lbs)	1 psf (14 lbs)	1 psf (14 lbs)	1 psf (14 lbs)

## 1 x 4 L connect Batten

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	66 psf (199 lbs)	53 psf (199 lbs)	44 psf (199 lbs)	38 psf (199 lbs)	33 psf (199 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	56 psf (112 lbs)	37 psf (112 lbs)	28 psf (112 lbs)	22 psf (112 lbs)	19 psf (112 lbs)	16 psf (112 lbs)	14 psf (112 lbs)
60	Strong (X)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
	Weak (Y)	29 psf (72 lbs)	19 psf (72 lbs)	14 psf (72 lbs)	11 psf (72 lbs)	10 psf (72 lbs)	8 psf (72 lbs)	7 psf (72 lbs)
72	Strong (X)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	70 psf (632 lbs)	60 psf (632 lbs)	53 psf (632 lbs)
	Weak (Y)	17 psf (50 lbs)	11 psf (50 lbs)	8 psf (50 lbs)	7 psf (50 lbs)	6 psf (50 lbs)	5 psf (50 lbs)	4 psf (50 lbs)
84	Strong (X)	75 psf (263 lbs)	75 psf (394 lbs)	66 psf (464 lbs)	53 psf (464 lbs)	44 psf (464 lbs)	38 psf (464 lbs)	33 psf (464 lbs)
	Weak (Y)	10 psf (37 lbs)	7 psf (37 lbs)	5 psf (37 lbs)	4 psf (37 lbs)	3 psf (37 lbs)	3 psf (37 lbs)	3 psf (37 lbs)
96	Strong (X)	75 psf (300 lbs)	59 psf (355 lbs)	44 psf (355 lbs)	36 psf (355 lbs)	30 psf (355 lbs)	25 psf (355 lbs)	2.2 psf (355 lbs)
	Weak (Y)	7 psf (28 lbs)	5 psf (28 lbs)	3 psf (28 lbs)	3 psf (28 lbs)	2 psf (28 lbs)	2 psf (28 lbs)	2 psf (28 lbs)
108	Strong (X)	62 psf (281 lbs)	42 psf (281 lbs)	31 psf (281 lbs)	25 psf (281 lbs)	21 psf (281 lbs)	18 psf (281 lbs)	16 psf (281 lbs)
	Weak (Y)	5 psf (22 lbs)	3 psf (22 lbs)	2 psf (22 lbs)	2 psf (22 lbs)	2 psf (22 lbs)	1 psf (22 lbs)	1 psf (22 lbs)
120	Strong (X)	45 psf (227 lbs)	30 psf (227 lbs)	23 psf (227 lbs)	18 psf (227 lbs)	15 psf (227 lbs)	13 psf (227 lbs)	11 psf (227 lbs)
	Weak (Y)	4 psf (18 lbs)	2 psf (18 lbs)	2 psf (18 lbs)	1 psf (18 lbs)	1 psf (18 lbs)	1 psf (18 lbs)	1 psf (18 lbs)

## 1 x 5 L connect Batten

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	65 psf (243 lbs)	54 psf (243 lbs)	46 psf (243 lbs)	41 psf (243 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	68 psf (137 lbs)	46 psf (137 lbs)	34 psf (137 lbs)	27 psf (137 lbs)	23 psf (137 lbs)	20 psf (137 lbs)	17 psf (137 lbs)
60	Strong (X)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
	Weak (Y)	35 psf (88 lbs)	23 psf (88 lbs)	18 psf (88 lbs)	14 psf (88 lbs)	12 psf (88 lbs)	10 psf (88 lbs)	9 psf (88 lbs)
72	Strong (X)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	75 psf (788 lbs)	75 psf (900 lbs)
	Weak (Y)	20 psf (61 lbs)	14 psf (61 lbs)	10 psf (61 lbs)	8 psf (61 lbs)	7 psf (61 lbs)	6 psf (61 lbs)	5 psf (61 lbs)
84	Strong (X)	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	75 psf (656 lbs)	75 psf (788 lbs)	69 psf (844 lbs)	60 psf (844 lbs)
	Weak (Y)	13 psf (45 lbs)	9 psf (45 lbs)	6 psf (45 lbs)	5 psf (45 lbs)	4 psf (45 lbs)	4 psf (45 lbs)	3 psf (45 lbs)
96	Strong (X)	75 psf (300 lbs)	75 psf (450 lbs)	75 psf (600 lbs)	65 psf (646 lbs)	54 psf (646 lbs)	46 psf (646 lbs)	40 psf (646 lbs)
	Weak (Y)	9 psf (34 lbs)	6 psf (34 lbs)	4 psf (34 lbs)	3 psf (34 lbs)	3 psf (34 lbs)	2 psf (34 lbs)	2 psf (34 lbs)
108	Strong (X)	75 psf (338 lbs)	75 psf (506 lbs)	57 psf (511 lbs)	45 psf (511 lbs)	38 psf (511 lbs)	32 psf (511 lbs)	28 psf (511 lbs)
	Weak (Y)	6 psf (27 lbs)	4 psf (27 lbs)	3 psf (27 lbs)	2 psf (27 lbs)	2 psf (27 lbs)	2 psf (27 lbs)	2 psf (27 lbs)
120	Strong (X)	75 psf (375 lbs)	55 psf (414 lbs)	41 psf (414 lbs)	33 psf (414 lbs)	28 psf (414 lbs)	24 psf (414 lbs)	21 psf (414 lbs)
	Weak (Y)	4 psf (22 lbs)	3 psf (22 lbs)	2 psf (22 lbs)	2 psf (22 lbs)	1 psf (22 lbs)	1 psf (22 lbs)	1 psf (22 lbs)

For SI: 1 inch = 25.4 mm; 1 lb = 4.45 N; 1 psf = 0.0478 kPa

<sup>1</sup> Design loads are limited to 75 psf max.<sup>2</sup> Member allowable end reaction is indicated in ( )<sup>3</sup> Allowable design loads are based on flexural yielding limit state. Evaluation based on shear failure or other flexural limit states is outside the scope of this report.<sup>4</sup> The interlocking mechanism in assembled tube elements (non-solid) has not been evaluated and is outside the scope of this report.<sup>5</sup> Orientation of the batten. Strong is beam orientation. Weak is flat orientation.<sup>6</sup> Width for which the allowable design load can be applied.



TABLE 2 – MOSAIC BATTENS TOTAL ALLOWABLE DESIGN LOADS<sup>1,2,3,4</sup> (continued)

## 1 x 6 L connect Batten

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	63 psf (285 lbs)	54 psf (285 lbs)	48 psf (285 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	75 psf (150 lbs)	53 psf (160 lbs)	40 psf (160 lbs)	32 psf (160 lbs)	27 psf (160 lbs)	23 psf (160 lbs)	20 psf (160 lbs)
60	Strong (X)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
	Weak (Y)	41 psf (103 lbs)	27 psf (103 lbs)	21 psf (103 lbs)	16 psf (103 lbs)	14 psf (103 lbs)	12 psf (103 lbs)	10 psf (103 lbs)
72	Strong (X)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	75 psf (788 lbs)	75 psf (900 lbs)
	Weak (Y)	24 psf (71 lbs)	16 psf (71 lbs)	12 psf (71 lbs)	10 psf (71 lbs)	8 psf (71 lbs)	7 psf (71 lbs)	6 psf (71 lbs)
84	Strong (X)	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	75 psf (656 lbs)	75 psf (788 lbs)	75 psf (919 lbs)	75 psf (1050 lbs)
	Weak (Y)	15 psf (52 lbs)	10 psf (52 lbs)	7 psf (52 lbs)	6 psf (52 lbs)	5 psf (52 lbs)	4 psf (52 lbs)	4 psf (52 lbs)
96	Strong (X)	75 psf (300 lbs)	75 psf (450 lbs)	75 psf (600 lbs)	75 psf (750 lbs)	75 psf (900 lbs)	73 psf (1025 lbs)	64 psf (1025 lbs)
	Weak (Y)	10 psf (40 lbs)	7 psf (40 lbs)	5 psf (40 lbs)	4 psf (40 lbs)	3 psf (40 lbs)	3 psf (40 lbs)	3 psf (40 lbs)
108	Strong (X)	75 psf (338 lbs)	75 psf (506 lbs)	75 psf (675 lbs)	72 psf (810 lbs)	60 psf (810 lbs)	51 psf (810 lbs)	45 psf (810 lbs)
	Weak (Y)	7 psf (32 lbs)	5 psf (32 lbs)	4 psf (32 lbs)	3 psf (32 lbs)	2 psf (32 lbs)	2 psf (32 lbs)	2 psf (32 lbs)
120	Strong (X)	75 psf (375 lbs)	75 psf (563 lbs)	66 psf (656 lbs)	52 psf (656 lbs)	44 psf (656 lbs)	37 psf (656 lbs)	33 psf (656 lbs)
	Weak (Y)	5 psf (26 lbs)	3 psf (26 lbs)	3 psf (26 lbs)	2 psf (26 lbs)	2 psf (26 lbs)	1 psf (26 lbs)	1 psf (26 lbs)

## 2 x 2 snap fit Batten

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	74 psf (443 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	62 psf (249 lbs)	50 psf (249 lbs)	42 psf (249 lbs)	36 psf (249 lbs)	31 psf (249 lbs)
	Weak (Y)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	73 psf (366 lbs)	61 psf (366 lbs)	52 psf (366 lbs)	46 psf (366 lbs)
60	Strong (X)	64 psf (160 lbs)	43 psf (160 lbs)	32 psf (160 lbs)	26 psf (160 lbs)	21 psf (160 lbs)	18 psf (160 lbs)	16 psf (160 lbs)
	Weak (Y)	75 psf (188 lbs)	63 psf (234 lbs)	47 psf (234 lbs)	38 psf (234 lbs)	31 psf (234 lbs)	27 psf (234 lbs)	23 psf (234 lbs)
72	Strong (X)	37 psf (111 lbs)	25 psf (111 lbs)	18 psf (111 lbs)	15 psf (111 lbs)	12 psf (111 lbs)	11 psf (111 lbs)	9 psf (111 lbs)
	Weak (Y)	54 psf (163 lbs)	36 psf (163 lbs)	27 psf (163 lbs)	22 psf (163 lbs)	18 psf (163 lbs)	16 psf (163 lbs)	14 psf (163 lbs)
84	Strong (X)	23 psf (81 lbs)	16 psf (81 lbs)	12 psf (81 lbs)	9 psf (81 lbs)	8 psf (81 lbs)	7 psf (81 lbs)	6 psf (81 lbs)
	Weak (Y)	34 psf (120 lbs)	23 psf (120 lbs)	17 psf (120 lbs)	14 psf (120 lbs)	11 psf (120 lbs)	10 psf (120 lbs)	9 psf (120 lbs)
96	Strong (X)	16 psf (62 lbs)	10 psf (62 lbs)	8 psf (62 lbs)	6 psf (62 lbs)	5 psf (62 lbs)	4 psf (62 lbs)	4 psf (62 lbs)
	Weak (Y)	23 psf (92 lbs)	15 psf (92 lbs)	11 psf (92 lbs)	9 psf (92 lbs)	8 psf (92 lbs)	7 psf (92 lbs)	6 psf (92 lbs)
108	Strong (X)	11 psf (49 lbs)	7 psf (49 lbs)	5 psf (49 lbs)	4 psf (49 lbs)	4 psf (49 lbs)	3 psf (49 lbs)	3 psf (49 lbs)
	Weak (Y)	16 psf (72 lbs)	11 psf (72 lbs)	8 psf (72 lbs)	6 psf (72 lbs)	5 psf (72 lbs)	5 psf (72 lbs)	4 psf (72 lbs)
120	Strong (X)	8 psf (40 lbs)	5 psf (40 lbs)	4 psf (40 lbs)	3 psf (40 lbs)	3 psf (40 lbs)	2 psf (40 lbs)	2 psf (40 lbs)
	Weak (Y)	12 psf (59 lbs)	8 psf (59 lbs)	6 psf (59 lbs)	5 psf (59 lbs)	4 psf (59 lbs)	3 psf (59 lbs)	3 psf (59 lbs)

## 2 x 3 snap fit Batten

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	67 psf (536 lbs)
	Weak (Y)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	69 psf (485 lbs)	61 psf (485 lbs)
60	Strong (X)	75 psf (188 lbs)	75 psf (281 lbs)	69 psf (343 lbs)	55 psf (343 lbs)	46 psf (343 lbs)	39 psf (343 lbs)	34 psf (343 lbs)
	Weak (Y)	75 psf (188 lbs)	75 psf (281 lbs)	62 psf (311 lbs)	50 psf (311 lbs)	41 psf (311 lbs)	36 psf (311 lbs)	31 psf (311 lbs)
72	Strong (X)	75 psf (225 lbs)	53 psf (238 lbs)	40 psf (238 lbs)	32 psf (238 lbs)	26 psf (238 lbs)	23 psf (238 lbs)	20 psf (238 lbs)
	Weak (Y)	72 psf (216 lbs)	48 psf (216 lbs)	36 psf (216 lbs)	29 psf (216 lbs)	24 psf (216 lbs)	21 psf (216 lbs)	18 psf (216 lbs)
84	Strong (X)	50 psf (175 lbs)	33 psf (175 lbs)	25 psf (175 lbs)	20 psf (175 lbs)	17 psf (175 lbs)	14 psf (175 lbs)	12 psf (175 lbs)
	Weak (Y)	45 psf (159 lbs)	30 psf (159 lbs)	23 psf (159 lbs)	18 psf (159 lbs)	15 psf (159 lbs)	13 psf (159 lbs)	11 psf (159 lbs)
96	Strong (X)	33 psf (134 lbs)	22 psf (134 lbs)	17 psf (134 lbs)	13 psf (134 lbs)	11 psf (134 lbs)	10 psf (134 lbs)	8 psf (134 lbs)
	Weak (Y)	30 psf (121 lbs)	20 psf (121 lbs)	15 psf (121 lbs)	12 psf (121 lbs)	10 psf (121 lbs)	9 psf (121 lbs)	8 psf (121 lbs)
108	Strong (X)	24 psf (106 lbs)	16 psf (106 lbs)	12 psf (106 lbs)	9 psf (106 lbs)	8 psf (106 lbs)	7 psf (106 lbs)	6 psf (106 lbs)
	Weak (Y)	21 psf (96 lbs)	14 psf (96 lbs)	11 psf (96 lbs)	9 psf (96 lbs)	7 psf (96 lbs)	6 psf (96 lbs)	5 psf (96 lbs)
120	Strong (X)	17 psf (86 lbs)	11 psf (86 lbs)	9 psf (86 lbs)	7 psf (86 lbs)	6 psf (86 lbs)	5 psf (86 lbs)	4 psf (86 lbs)
	Weak (Y)	16 psf (78 lbs)	10 psf (78 lbs)	8 psf (78 lbs)	6 psf (78 lbs)	5 psf (78 lbs)	4 psf (78 lbs)	4 psf (78 lbs)

For SI: 1 inch = 25.4 mm; 1 lb = 4.45 N; 1 psf = 0.0478 kPa

<sup>1</sup> Design loads are limited to 75 psf max.<sup>2</sup> Member allowable end reaction is indicated in ( )<sup>3</sup> Allowable design loads are based on flexural yielding limit state. Evaluation based on shear failure or other flexural limit states is outside the scope of this report.<sup>4</sup> The interlocking mechanism in assembled tube elements (non-solid) has not been evaluated and is outside the scope of this report.<sup>5</sup> Orientation of the batten. Strong is beam orientation. Weak is flat orientation.<sup>6</sup> Width for which the allowable design load can be applied.

TABLE 2 – MOSAIC BATTENS TOTAL ALLOWABLE DESIGN LOADS<sup>1,2,3,4</sup> (continued)

## 2 x 6 snap fit Batten

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
60	Strong (X)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
	Weak (Y)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	69 psf (518 lbs)	59 psf (518 lbs)	52 psf (518 lbs)
72	Strong (X)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	75 psf (788 lbs)	75 psf (900 lbs)
	Weak (Y)	75 psf (225 lbs)	75 psf (338 lbs)	60 psf (360 lbs)	48 psf (360 lbs)	40 psf (360 lbs)	34 psf (360 lbs)	30 psf (360 lbs)
84	Strong (X)	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	75 psf (656 lbs)	75 psf (788 lbs)	75 psf (919 lbs)	73 psf (1029 lbs)
	Weak (Y)	75 psf (263 lbs)	50 psf (264 lbs)	38 psf (264 lbs)	30 psf (264 lbs)	25 psf (264 lbs)	22 psf (264 lbs)	19 psf (264 lbs)
96	Strong (X)	75 psf (300 lbs)	75 psf (450 lbs)	75 psf (600 lbs)	75 psf (750 lbs)	66 psf (788 lbs)	56 psf (788 lbs)	49 psf (788 lbs)
	Weak (Y)	51 psf (202 lbs)	34 psf (202 lbs)	25 psf (202 lbs)	20 psf (202 lbs)	17 psf (202 lbs)	14 psf (202 lbs)	13 psf (202 lbs)
108	Strong (X)	75 psf (338 lbs)	75 psf (506 lbs)	69 psf (622 lbs)	55 psf (622 lbs)	46 psf (622 lbs)	40 psf (622 lbs)	35 psf (622 lbs)
	Weak (Y)	36 psf (160 lbs)	24 psf (160 lbs)	18 psf (160 lbs)	14 psf (160 lbs)	12 psf (160 lbs)	10 psf (160 lbs)	9 psf (160 lbs)
120	Strong (X)	75 psf (375 lbs)	67 psf (504 lbs)	50 psf (504 lbs)	40 psf (504 lbs)	34 psf (504 lbs)	29 psf (504 lbs)	25 psf (504 lbs)
	Weak (Y)	26 psf (129 lbs)	17 psf (129 lbs)	13 psf (129 lbs)	10 psf (129 lbs)	9 psf (129 lbs)	7 psf (129 lbs)	6 psf (129 lbs)

## 2 x 8 snap fit Batten

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
60	Strong (X)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
	Weak (Y)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	67 psf (668 lbs)
72	Strong (X)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	75 psf (788 lbs)	75 psf (900 lbs)
	Weak (Y)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	62 psf (464 lbs)	52 psf (464 lbs)	44 psf (464 lbs)	39 psf (464 lbs)
84	Strong (X)	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	75 psf (656 lbs)	75 psf (788 lbs)	75 psf (919 lbs)	75 psf (1050 lbs)
	Weak (Y)	75 psf (263 lbs)	65 psf (341 lbs)	49 psf (341 lbs)	39 psf (341 lbs)	32 psf (341 lbs)	28 psf (341 lbs)	24 psf (341 lbs)
96	Strong (X)	75 psf (300 lbs)	75 psf (450 lbs)	75 psf (600 lbs)	75 psf (750 lbs)	75 psf (900 lbs)	75 psf (1050 lbs)	75 psf (1200 lbs)
	Weak (Y)	65 psf (261 lbs)	43 psf (261 lbs)	33 psf (261 lbs)	26 psf (261 lbs)	22 psf (261 lbs)	19 psf (261 lbs)	16 psf (261 lbs)
108	Strong (X)	75 psf (338 lbs)	75 psf (506 lbs)	75 psf (675 lbs)	75 psf (844 lbs)	75 psf (1013 lbs)	75 psf (1181 lbs)	75 psf (1350 lbs)
	Weak (Y)	46 psf (206 lbs)	31 psf (206 lbs)	23 psf (206 lbs)	18 psf (206 lbs)	15 psf (206 lbs)	13 psf (206 lbs)	11 psf (206 lbs)
120	Strong (X)	75 psf (375 lbs)	75 psf (563 lbs)	75 psf (750 lbs)	75 psf (938 lbs)	75 psf (1125 lbs)	64 psf (1127 lbs)	56 psf (1127 lbs)
	Weak (Y)	33 psf (167 lbs)	22 psf (167 lbs)	17 psf (167 lbs)	13 psf (167 lbs)	11 psf (167 lbs)	10 psf (167 lbs)	8 psf (167 lbs)

## 2 x 10 Batten assembly

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
60	Strong (X)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
	Weak (Y)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
72	Strong (X)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	75 psf (788 lbs)	75 psf (900 lbs)
	Weak (Y)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	67 psf (605 lbs)	58 psf (605 lbs)	50 psf (605 lbs)
84	Strong (X)	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	75 psf (656 lbs)	75 psf (788 lbs)	75 psf (919 lbs)	75 psf (1050 lbs)
	Weak (Y)	75 psf (263 lbs)	75 psf (394 lbs)	64 psf (445 lbs)	51 psf (445 lbs)	42 psf (445 lbs)	36 psf (445 lbs)	32 psf (445 lbs)
96	Strong (X)	75 psf (300 lbs)	75 psf (450 lbs)	75 psf (600 lbs)	75 psf (750 lbs)	75 psf (900 lbs)	75 psf (1050 lbs)	75 psf (1200 lbs)
	Weak (Y)	75 psf (300 lbs)	57 psf (340 lbs)	43 psf (340 lbs)	34 psf (340 lbs)	28 psf (340 lbs)	24 psf (340 lbs)	21 psf (340 lbs)
108	Strong (X)	75 psf (338 lbs)	75 psf (506 lbs)	75 psf (675 lbs)	75 psf (844 lbs)	75 psf (1013 lbs)	75 psf (1181 lbs)	75 psf (1350 lbs)
	Weak (Y)	60 psf (269 lbs)	40 psf (269 lbs)	30 psf (269 lbs)	24 psf (269 lbs)	20 psf (269 lbs)	17 psf (269 lbs)	15 psf (269 lbs)
120	Strong (X)	75 psf (375 lbs)	75 psf (563 lbs)	75 psf (750 lbs)	75 psf (938 lbs)	75 psf (1125 lbs)	75 psf (1313 lbs)	75 psf (1500 lbs)
	Weak (Y)	44 psf (218 lbs)	29 psf (218 lbs)	22 psf (218 lbs)	17 psf (218 lbs)	15 psf (218 lbs)	12 psf (218 lbs)	11 psf (218 lbs)

For SI: 1 inch = 25.4 mm; 1 lb = 4.45 N; 1 psf = 0.0478 kPa

<sup>1</sup> Design loads are limited to 75 psf max.<sup>2</sup> Member allowable end reaction is indicated in ( )<sup>3</sup> Allowable design loads are based on flexural yielding limit state. Evaluation based on shear failure or other flexural limit states is outside the scope of this report.<sup>4</sup> The interlocking mechanism in assembled tube elements (non-solid) has not been evaluated and is outside the scope of this report.<sup>5</sup> Orientation of the batten. Strong is beam orientation. Weak is flat orientation.<sup>6</sup> Width for which the allowable design load can be applied.



TABLE 2 – MOSAIC BATTENS TOTAL ALLOWABLE DESIGN LOADS<sup>1,2,3,4</sup> (continued)

## 2 x 12 Batten assembly

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
60	Strong (X)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
	Weak (Y)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
72	Strong (X)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	75 psf (788 lbs)	75 psf (900 lbs)
	Weak (Y)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	67 psf (703 lbs)	59 psf (703 lbs)
84	Strong (X)	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	75 psf (656 lbs)	75 psf (788 lbs)	75 psf (919 lbs)	75 psf (1050 lbs)
	Weak (Y)	75 psf (263 lbs)	75 psf (394 lbs)	74 psf (517 lbs)	59 psf (517 lbs)	49 psf (517 lbs)	42 psf (517 lbs)	37 psf (517 lbs)
96	Strong (X)	75 psf (300 lbs)	75 psf (450 lbs)	75 psf (600 lbs)	75 psf (750 lbs)	75 psf (900 lbs)	75 psf (1050 lbs)	75 psf (1200 lbs)
	Weak (Y)	75 psf (300 lbs)	66 psf (396 lbs)	49 psf (396 lbs)	40 psf (396 lbs)	33 psf (396 lbs)	28 psf (396 lbs)	25 psf (396 lbs)
108	Strong (X)	75 psf (338 lbs)	75 psf (506 lbs)	75 psf (675 lbs)	75 psf (844 lbs)	75 psf (1013 lbs)	75 psf (1181 lbs)	75 psf (1350 lbs)
	Weak (Y)	69 psf (313 lbs)	46 psf (313 lbs)	35 psf (313 lbs)	28 psf (313 lbs)	23 psf (313 lbs)	20 psf (313 lbs)	17 psf (313 lbs)
120	Strong (X)	75 psf (375 lbs)	75 psf (563 lbs)	75 psf (750 lbs)	75 psf (938 lbs)	75 psf (1125 lbs)	75 psf (1313 lbs)	75 psf (1500 lbs)
	Weak (Y)	51 psf (253 lbs)	34 psf (253 lbs)	25 psf (253 lbs)	20 psf (253 lbs)	17 psf (253 lbs)	14 psf (253 lbs)	13 psf (253 lbs)

## 2 x 14 Batten assembly

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
60	Strong (X)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
	Weak (Y)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
72	Strong (X)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	75 psf (788 lbs)	75 psf (900 lbs)
	Weak (Y)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	75 psf (788 lbs)	73 psf (807 lbs)
84	Strong (X)	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	75 psf (656 lbs)	75 psf (788 lbs)	75 psf (919 lbs)	75 psf (1050 lbs)
	Weak (Y)	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	73 psf (639 lbs)	61 psf (639 lbs)	52 psf (639 lbs)	46 psf (639 lbs)
96	Strong (X)	75 psf (300 lbs)	75 psf (450 lbs)	75 psf (600 lbs)	75 psf (750 lbs)	75 psf (900 lbs)	75 psf (1050 lbs)	75 psf (1200 lbs)
	Weak (Y)	75 psf (300 lbs)	75 psf (450 lbs)	61 psf (489 lbs)	49 psf (489 lbs)	41 psf (489 lbs)	35 psf (489 lbs)	31 psf (489 lbs)
108	Strong (X)	75 psf (338 lbs)	75 psf (506 lbs)	75 psf (675 lbs)	75 psf (844 lbs)	75 psf (1013 lbs)	75 psf (1181 lbs)	75 psf (1350 lbs)
	Weak (Y)	75 psf (338 lbs)	57 psf (387 lbs)	43 psf (387 lbs)	34 psf (387 lbs)	29 psf (387 lbs)	25 psf (387 lbs)	21 psf (387 lbs)
120	Strong (X)	75 psf (375 lbs)	75 psf (563 lbs)	75 psf (750 lbs)	75 psf (938 lbs)	75 psf (1125 lbs)	75 psf (1313 lbs)	75 psf (1500 lbs)
	Weak (Y)	63 psf (313 lbs)	42 psf (313 lbs)	31 psf (313 lbs)	25 psf (313 lbs)	21 psf (313 lbs)	18 psf (313 lbs)	16 psf (313 lbs)

## 4 x 2 snap fit Batten

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	66 psf (528 lbs)
60	Strong (X)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
	Weak (Y)	75 psf (188 lbs)	75 psf (281 lbs)	68 psf (338 lbs)	54 psf (338 lbs)	45 psf (338 lbs)	39 psf (338 lbs)	34 psf (338 lbs)
72	Strong (X)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	75 psf (788 lbs)	75 psf (900 lbs)
	Weak (Y)	75 psf (225 lbs)	52 psf (235 lbs)	39 psf (235 lbs)	31 psf (235 lbs)	26 psf (235 lbs)	22 psf (235 lbs)	20 psf (235 lbs)
84	Strong (X)	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	75 psf (656 lbs)	63 psf (663 lbs)	54 psf (663 lbs)	47 psf (663 lbs)
	Weak (Y)	49 psf (172 lbs)	33 psf (172 lbs)	25 psf (172 lbs)	20 psf (172 lbs)	16 psf (172 lbs)	14 psf (172 lbs)	12 psf (172 lbs)
96	Strong (X)	75 psf (300 lbs)	75 psf (450 lbs)	63 psf (508 lbs)	51 psf (508 lbs)	42 psf (508 lbs)	36 psf (508 lbs)	32 psf (508 lbs)
	Weak (Y)	33 psf (132 lbs)	22 psf (132 lbs)	16 psf (132 lbs)	13 psf (132 lbs)	11 psf (132 lbs)	9 psf (132 lbs)	8 psf (132 lbs)
108	Strong (X)	75 psf (338 lbs)	59 psf (401 lbs)	45 psf (401 lbs)	36 psf (401 lbs)	30 psf (401 lbs)	25 psf (401 lbs)	22 psf (401 lbs)
	Weak (Y)	23 psf (104 lbs)	15 psf (104 lbs)	12 psf (104 lbs)	9 psf (104 lbs)	8 psf (104 lbs)	7 psf (104 lbs)	6 psf (104 lbs)
120	Strong (X)	65 psf (325 lbs)	43 psf (325 lbs)	32 psf (325 lbs)	26 psf (325 lbs)	22 psf (325 lbs)	19 psf (325 lbs)	16 psf (325 lbs)
	Weak (Y)	17 psf (84 lbs)	11 psf (84 lbs)	8 psf (84 lbs)	7 psf (84 lbs)	6 psf (84 lbs)	5 psf (84 lbs)	4 psf (84 lbs)

For SI: 1 inch = 25.4 mm; 1 lb = 4.45 N; 1 psf = 0.0478 kPa

<sup>1</sup> Design loads are limited to 75 psf max.<sup>2</sup> Member allowable end reaction is indicated in ( )<sup>3</sup> Allowable design loads are based on flexural yielding limit state. Evaluation based on shear failure or other flexural limit states is outside the scope of this report.<sup>4</sup> The interlocking mechanism in assembled tube elements (non-solid) has not been evaluated and is outside the scope of this report.<sup>5</sup> Orientation of the batten. Strong is beam orientation. Weak is flat orientation.<sup>6</sup> Width for which the allowable design load can be applied.

TABLE 2 – MOSAIC BATTENS TOTAL ALLOWABLE DESIGN LOADS<sup>1,2,3,4</sup> (continued)

## 4 x 8 L connect Batten

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
60	Strong (X)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
	Weak (Y)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
72	Strong (X)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	75 psf (788 lbs)	75 psf (900 lbs)
	Weak (Y)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	75 psf (788 lbs)	75 psf (900 lbs)
84	Strong (X)	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	75 psf (656 lbs)	75 psf (788 lbs)	75 psf (919 lbs)	75 psf (1050 lbs)
	Weak (Y)	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	75 psf (656 lbs)	75 psf (788 lbs)	75 psf (919 lbs)	75 psf (1050 lbs)
96	Strong (X)	75 psf (300 lbs)	75 psf (450 lbs)	75 psf (600 lbs)	75 psf (750 lbs)	75 psf (900 lbs)	75 psf (1050 lbs)	75 psf (1200 lbs)
	Weak (Y)	75 psf (300 lbs)	75 psf (450 lbs)	75 psf (600 lbs)	75 psf (750 lbs)	75 psf (900 lbs)	75 psf (1050 lbs)	75 psf (1200 lbs)
108	Strong (X)	75 psf (338 lbs)	75 psf (506 lbs)	75 psf (675 lbs)	75 psf (844 lbs)	75 psf (1013 lbs)	75 psf (1181 lbs)	75 psf (1350 lbs)
	Weak (Y)	75 psf (338 lbs)	75 psf (506 lbs)	75 psf (675 lbs)	75 psf (844 lbs)	75 psf (1013 lbs)	75 psf (1181 lbs)	75 psf (1350 lbs)
120	Strong (X)	75 psf (375 lbs)	75 psf (563 lbs)	75 psf (750 lbs)	75 psf (938 lbs)	75 psf (1125 lbs)	75 psf (1313 lbs)	75 psf (1500 lbs)
	Weak (Y)	75 psf (375 lbs)	75 psf (563 lbs)	75 psf (750 lbs)	68 psf (849 lbs)	57 psf (849 lbs)	48 psf (849 lbs)	42 psf (849 lbs)

## 6 x 1 snap fit Batten

Batten Span (in)	Axis <sup>5</sup>	Tributary Width <sup>6</sup> (in)						
		12	18	24	30	36	42	48
24	Strong (X)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
	Weak (Y)	75 psf (75 lbs)	75 psf (113 lbs)	75 psf (150 lbs)	75 psf (188 lbs)	75 psf (225 lbs)	75 psf (263 lbs)	75 psf (300 lbs)
36	Strong (X)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	75 psf (281 lbs)	75 psf (338 lbs)	75 psf (394 lbs)	75 psf (450 lbs)
	Weak (Y)	75 psf (113 lbs)	75 psf (169 lbs)	75 psf (225 lbs)	73 psf (275 lbs)	61 psf (275 lbs)	52 psf (275 lbs)	46 psf (275 lbs)
48	Strong (X)	75 psf (150 lbs)	75 psf (225 lbs)	75 psf (300 lbs)	75 psf (375 lbs)	75 psf (450 lbs)	75 psf (525 lbs)	75 psf (600 lbs)
	Weak (Y)	75 psf (150 lbs)	52 psf (155 lbs)	39 psf (155 lbs)	31 psf (155 lbs)	26 psf (155 lbs)	22 psf (155 lbs)	19 psf (155 lbs)
60	Strong (X)	75 psf (188 lbs)	75 psf (281 lbs)	75 psf (375 lbs)	75 psf (469 lbs)	75 psf (563 lbs)	75 psf (656 lbs)	75 psf (750 lbs)
	Weak (Y)	40 psf (99 lbs)	26 psf (99 lbs)	20 psf (99 lbs)	16 psf (99 lbs)	13 psf (99 lbs)	11 psf (99 lbs)	10 psf (99 lbs)
72	Strong (X)	75 psf (225 lbs)	75 psf (338 lbs)	75 psf (450 lbs)	75 psf (563 lbs)	75 psf (675 lbs)	75 psf (788 lbs)	75 psf (900 lbs)
	Weak (Y)	23 psf (69 lbs)	15 psf (69 lbs)	11 psf (69 lbs)	9 psf (69 lbs)	8 psf (69 lbs)	7 psf (69 lbs)	6 psf (69 lbs)
84	Strong (X)	75 psf (263 lbs)	75 psf (394 lbs)	75 psf (525 lbs)	75 psf (656 lbs)	75 psf (788 lbs)	75 psf (919 lbs)	75 psf (1050 lbs)
	Weak (Y)	14 psf (51 lbs)	10 psf (51 lbs)	7 psf (51 lbs)	6 psf (51 lbs)	5 psf (51 lbs)	4 psf (51 lbs)	4 psf (51 lbs)
96	Strong (X)	75 psf (300 lbs)	75 psf (450 lbs)	75 psf (600 lbs)	75 psf (750 lbs)	75 psf (900 lbs)	69 psf (972 lbs)	61 psf (972 lbs)
	Weak (Y)	10 psf (39 lbs)	6 psf (39 lbs)	5 psf (39 lbs)	4 psf (39 lbs)	3 psf (39 lbs)	3 psf (39 lbs)	2 psf (39 lbs)
108	Strong (X)	75 psf (338 lbs)	75 psf (506 lbs)	75 psf (675 lbs)	68 psf (768 lbs)	57 psf (768 lbs)	49 psf (768 lbs)	43 psf (768 lbs)
	Weak (Y)	7 psf (31 lbs)	5 psf (31 lbs)	3 psf (31 lbs)	3 psf (31 lbs)	2 psf (31 lbs)	2 psf (31 lbs)	2 psf (31 lbs)
120	Strong (X)	75 psf (375 lbs)	75 psf (563 lbs)	62 psf (622 lbs)	50 psf (622 lbs)	41 psf (622 lbs)	36 psf (622 lbs)	31 psf (622 lbs)
	Weak (Y)	5 psf (25 lbs)	3 psf (25 lbs)	2 psf (25 lbs)	2 psf (25 lbs)	2 psf (25 lbs)	1 psf (25 lbs)	1 psf (25 lbs)

For **SI**: 1 inch = 25.4 mm; 1 lb = 4.45 N; 1 psf = 0.0478 kPa<sup>1</sup> Design loads are limited to 75 psf max.<sup>2</sup> Member allowable end reaction is indicated in ( )<sup>3</sup> Allowable design loads are based on flexural yielding limit state. Evaluation based on shear failure or other flexural limit states is outside the scope of this report.<sup>4</sup> The interlocking mechanism in assembled tube elements (non-solid) has not been evaluated and is outside the scope of this report.<sup>5</sup> Orientation of the batten. Strong is beam orientation. Weak is flat orientation.<sup>6</sup> Width for which the allowable design load can be applied.



FIGURE 1—EXAMPLE MOSAIC BATTENS ISOMETRICS AND TYPICAL FINISHES

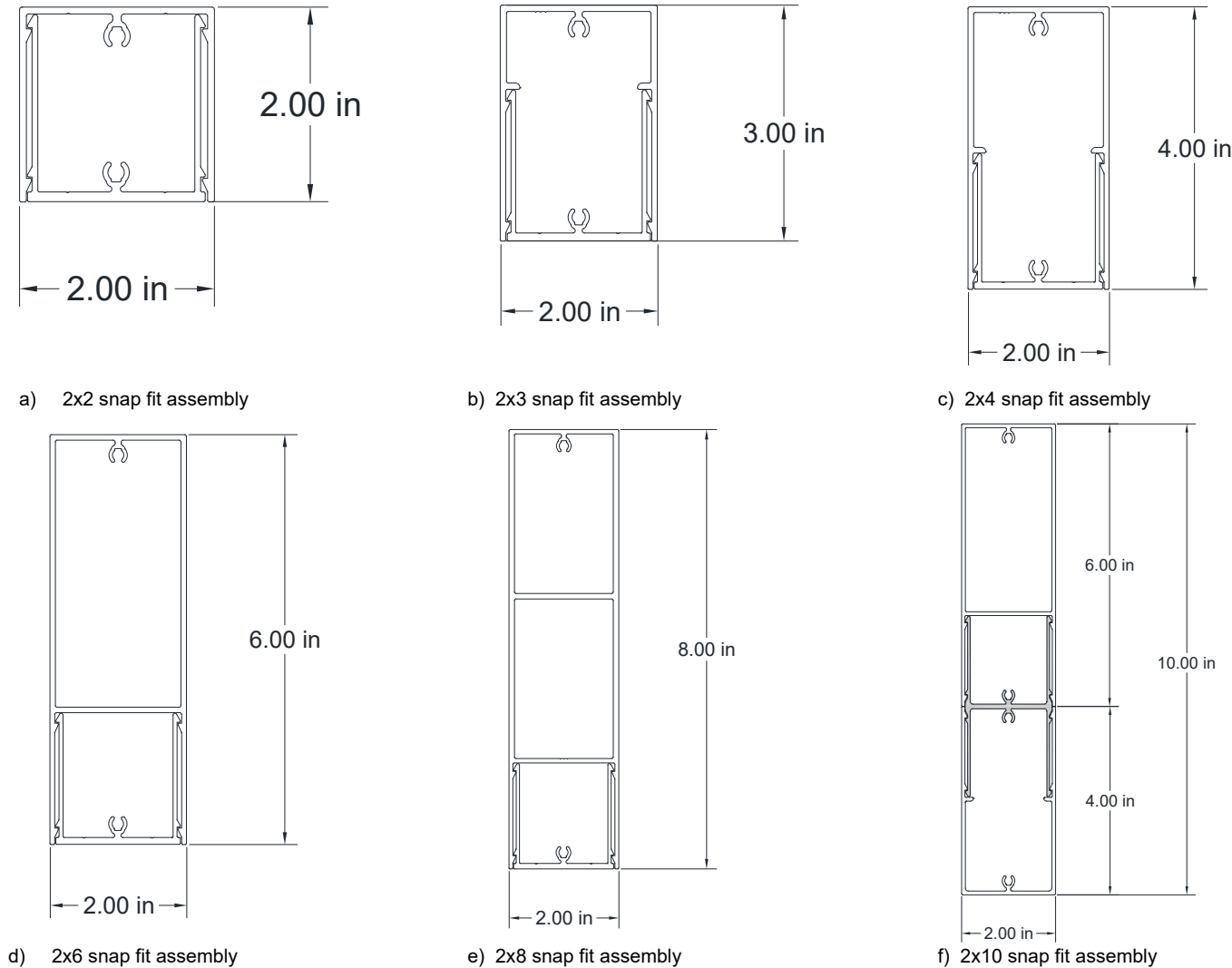
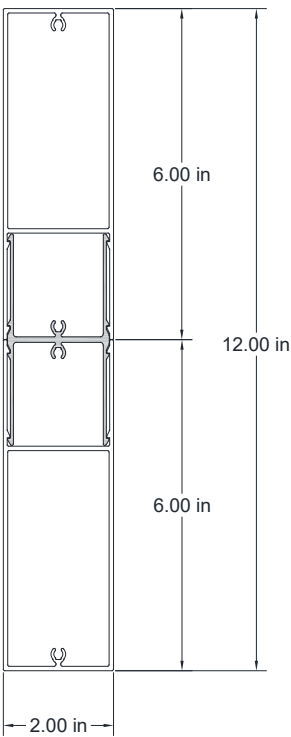
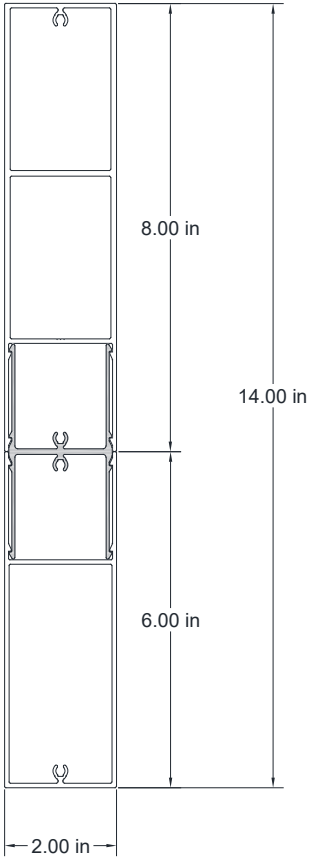


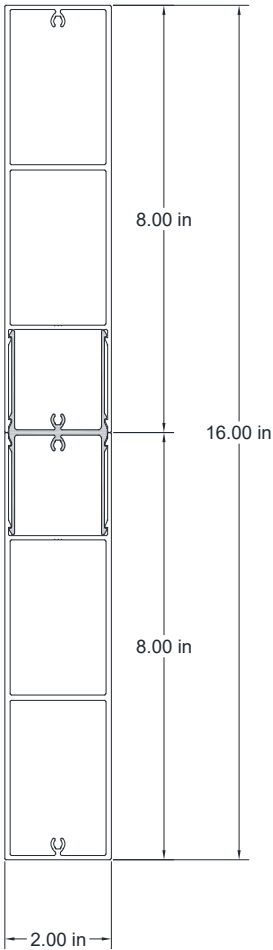
FIGURE 2—EXAMPLE MOSAIC BATTENS PROFILE SECTIONS



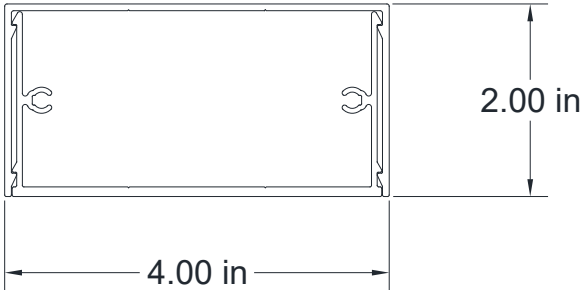
g) 2x12 snap fit assembly



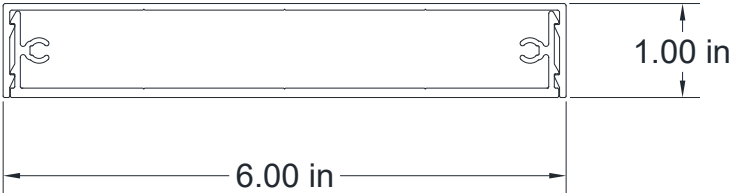
h) 2x14 snap fit assembly



i) 2x16 snap fit assembly



b) 4x2 horizontal snap fit assembly



c) 6x1 horizontal snap fit assembly

FIGURE 2—EXAMPLE MOSAIC BATTENS PROFILE SECTIONS (Continued)

## ICC-ES Evaluation Report

## ESR-5449 City of LA Supplement

Issued October 2024

This report is subject to renewal October 2025

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A Subsidiary of the International Code Council®

**DIVISION: 05 00 00—METALS**

**Section: 05 50 00—Metal Fabrications**

**REPORT HOLDER:**

**ARCHITECTURAL METAL SOLUTIONS LLC DBA: LUMABUILT**

**EVALUATION SUBJECT:**

**MOSAIC BATTENS**

### 1.0 REPORT PURPOSE AND SCOPE

**Purpose:**

The purpose of this evaluation report supplement is to indicate that the Mosaic Battens, described in ICC-ES evaluation report [ESR-5449](#), have also been evaluated for compliance with the codes noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

**Applicable code editions:**

- 2023 City of Los Angeles Building Code ([LABC](#))

### 2.0 CONCLUSIONS

The Mosaic Battens, described in Sections 2.0 through 7.0 of the evaluation report [ESR-5449](#), comply with the LABC Chapters 7, 8 and 14, and are subject to the conditions of use described in this supplement.

### 3.0 CONDITIONS OF USE

The Mosaic Battens, described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report [ESR-5449](#).
- The design, installation, conditions of use and identification of the Mosaic Battens are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report [ESR-5449](#).
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16 and 17, as applicable.
- The Mosaic Battens may be used in the exterior design and construction of new buildings located in a Fire Hazard Severity Zones within State Responsibility Areas or Wildland—Urban Interface Fire Area, provided installation is in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of the LABC Sections 701A.3 and 710A. The Mosaic Battens comply with the noncombustible material performance requirements of the LABC Section 704A.4 (Item 1) when tested in accordance with ASTM E136 and may be used in the design and construction of exterior coverings in new buildings located in a Fire Hazard Severity Zones within State Responsibility Areas or Wildland—Urban Interface Fire Area.

This supplement expires concurrently with the evaluation report, issued October 2024.



# ICC-ES Evaluation Report

## ESR-5449 CA Supplement w/ DSA, OSHPD and Exterior Wildfire Exposure

Issued October 2024

*This report is subject to renewal October 2025.*

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A Subsidiary of the International Code Council®

**DIVISION: 05 00 00—METALS**

**Section: 05 50 00—Metal Fabrications**

### REPORT HOLDER:

**ARCHITECTURAL METAL SOLUTIONS LLC DBA: LUMABUILT**

### EVALUATION SUBJECT:

**MOSAIC BATTENS**

## 1.0 REPORT PURPOSE AND SCOPE

### Purpose:

The purpose of this evaluation report supplement is to indicate that the Mosaic Battens, described in ICC-ES evaluation report ESR-5449, have also been evaluated for compliance with the code(s) noted below.

### Applicable code edition(s):

- 2022 California Building Code (CBC)

For evaluation of applicable chapters adopted by the [California Office of Statewide Health Planning and Development \(OSHPD\) AKA: California Department of Health Care Access and Information \(HCAI\) and the Division of State Architects \(DSA\)](#), see Sections 2.1.1 and 2.1.2 below.

## 2.0 CONCLUSIONS

### 2.1 CBC:

The Mosaic Battens, described in Sections 2.0 through 7.0 of the evaluation report ESR-5449, comply with CBC Chapters 7, 8, 14 and 20, as applicable, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 16 and 17, as applicable.

The Mosaic Battens may be used in the exterior design and construction of new buildings located in a Fire Hazard Severity Zones within State Responsibility Areas or Wildland—Urban Interface Fire Area, provided installation is in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of the 2022 CBC Sections 701A.3 and 710A. The Mosaic Battens comply with the noncombustible material performance requirements of the 2022 CBC Section 704A.4 (Item 1) when tested in accordance with ASTM E136 and may be used in the design and construction of exterior coverings in new buildings located in a Fire Hazard Severity Zones within State Responsibility Areas or Wildland—Urban Interface Fire Area.

The products recognized in this supplement have not been evaluated for compliance with the *International Wildland—Urban Interface Code*®.

### 2.1.1 OSHPD:

The Mosaic Battens, described in Sections 2.0 through 7.0 of the evaluation report ESR-5449, comply with CBC Chapters 7, 8 and amended 14 [OSHPD 1, 1R, 2, 3, 4 & 5], provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 16 [OSHPD 1R, 2, 3 & 5], 16A [OSHPD 1 & 4], 17 [OSHPD 1R, 2, 3 & 5], 17A [OSHPD 1 & 4] and 20 [OSHPD 1, 1R, 2, 3, 4 & 5], as applicable.

### 2.1.2 DSA:

The Mosaic Battens, described in Sections 2.0 through 7.0 of the evaluation report ESR-5449, comply with CBC Chapters 8, 7 and amended 14 [DSA-SS, DSA-SS/CC], provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 16 [DSA SS/CC], 16A [DSA SS], 17A [DSA-SS, DSA-SS/CC] and 20 [DSA-SS, DSA-SS/CC], as applicable.

This supplement expires concurrently with the evaluation report, issued October 2024.

DIVISION: 05 00 00—METALS  
Section: 05 50 00—Metal Fabrications

## REPORT HOLDER:

ARCHITECTURAL METAL SOLUTIONS LLC DBA: LUMABUILT

## EVALUATION SUBJECT:

MOSAIC BATTENS

## 1.0 REPORT PURPOSE AND SCOPE

## Purpose:

The purpose of this evaluation report supplement is to indicate that the Mosaic Battens, described in ICC-ES evaluation report ESR-5449, have also been evaluated for compliance with the codes noted below.

## Applicable code editions:

- 2023 Florida Building Code—Building

## 2.0 CONCLUSIONS

The Mosaic Battens, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-5449, comply with the *Florida Building Code—Building*. The design requirements must be determined in accordance with the *Florida Building Code—Building*. The installation requirements noted in ICC-ES evaluation report ESR-5449 for the 2021 *International Building Code*® meet the requirements of the *Florida Building Code—Building*.

Use of the Mosaic Battens has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* with the following conditions:

1. Mosaic Battens are used in assemblies complying with FBC Section 1626.4.
2. Mosaic Battens design negative pressure is limited to 110 psf (5,266 Pa).
3. Mosaic Battens supports are limited to a maximum spacing of 16 inches (406 mm).

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, issued October 2024.