

# TECTUM® I

## Structural Acoustical Roof Deck



East Lawrence Recreation Center – Lawrence, KS (Tectum I Roof Deck)

Tectum® I structural acoustic roof deck provides excellent sound absorption, a thermal barrier for field-applied foam plastics, and is compatible with a wide variety of insulation and roofing materials.

### KEY SELECTION ATTRIBUTES

- Sound absorption—NRC up to 0.80
- R-value up to 6
- Spans up to 6 feet
- 50-pound design load
- Diaphragm shear up to 542 dsn/lf
- Nailable surface
- Low slope applications

### TYPICAL APPLICATIONS

- Schools
- Gymnasiums
- Arenas

### TECTUM® I PLANK

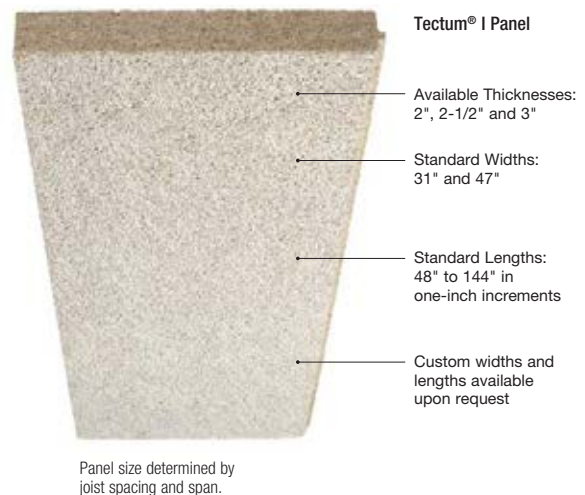
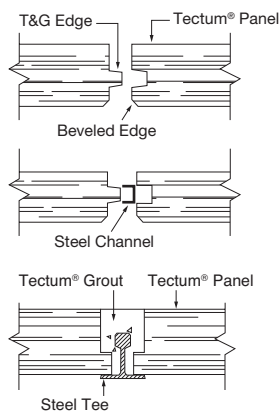
Using tongue-and-groove (T&G) edges, Tectum® I Plank can achieve spans of up to four feet.

### TECTUM® I Long Span Plank (LS)

The Long-Span Plank adds a 16-gauge steel channel to the standard plank and allows for spans of up to six feet.

### TECTUM® I Tile

With either tongue-and-groove or square ends, Tectum® I Tile is grouted to steel bulb tees and allows for spans of up to 10 feet.



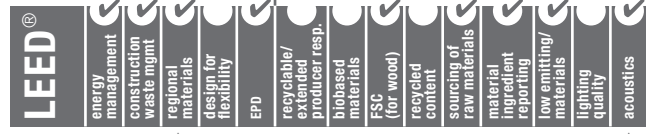
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### design guidelines



For LEED contribution visit [armstrongbuildingsolutions.com](http://armstrongbuildingsolutions.com)



LOCATION DEPENDENT

THICKNESS DEPENDENT

### TECTUM® I ROOF DECK DESIGN LOAD DATA

System	Thickness <sup>1</sup>	Wt. (PFS) <sup>1</sup>	Span															
			24"	30"	36"	38"	40"	42"	44"	48"	50"	52"	54"	60"	66"	72"		
Plank	2"	3.5	130	75	50	45	40	35										
	2-1/2"	4.5	150	120	80	70	60	50	45	35								
	3"	5.3	200	125	102	91	82	74	65	50	45	40	35					
Long Span Plank	2"	3.8	130	75	75	75	70	64	57	50	45	40	35					
	2-1/2"	4.7	150	120	120	120	114	103	93	77	70	65	60	50	35			
	3"	5.5	200	125	125	125	125	120	115	110	104	96	88	71	58	50		

For loads greater than 200 lbs., contact Armstrong TechLine.  
<sup>1</sup> Thickness and weight are nominal.

### TECTUM® I THERMAL PERFORMANCE

Panel Thickness	R-Value	Weight PSF
2"	3.68	3.7
2-1/2"	4.56	4.7
3"	6.43	6.2

### TECTUM® I ACOUSTICS

Panel Thickness	NRC
2"	0.60
2-1/2"	0.66
3"	0.80

### TECTUM® I DIAPHRAGM DESIGN DATA Call for assistance when designing and detailing Tectum® Roof Deck Systems

Type	Panel Size D x W x L	Joist	Span <sup>1</sup>	Fasteners	Field Spacing	Perimeter	Adhesive <sup>2</sup>	Grout	ULT/LF	DSN/LF
Plank	3 x 31 x 96"	Steel	48"	S-25/2" Washer	3/Joist/Panel	16" o.c.	No	None	825	275
							T&G + Joist		1350	450
LS <sup>3</sup>	2-1/2 x 31 x 120"	Wood	60"	3-3/4" 14-Gauge Scr/2"w	2/Joist/Panel	10" o.c. sides + ends	T&G + Joist	None	1170	389
	3 x 31 x 144"	Wood	72"	4-1/2" 14-Gauge Scr/2"w	2/Joist/Panel	12" o.c. sides + ends	T&G + Joist	None	860	286
	2 x 31 x 96"	Wood	48"	3-3/4" 14-Gauge Scr/2"w	2/Joist/Panel	12" o.c. sides + ends	T&G + Joist	None	964	321
	3 x 31 x 144" <sup>3</sup>	Wood	72"	4-1/2" 14-Gauge Scr/2"w	2/Joist/Panel	12" o.c. sides + ends	T&G + Joist	None	1631	542
Tile	2 x 23-1/2 x 143"	Steel	3	112 Ts/112 x Ts	24" o.c.	112 Ts	No	4 Sides	925	313
	2 x 31-1/2 x 95"	Steel	3	168 Ts/112 x Ts	32" o.c.	158 Ts	No	4 Sides	575	200
	2 x 31-1/2 x 95"	Steel	NA <sup>3</sup>	000-5-14-2+S-25/2"w	2/Joist	10-1/2" o.c.	Joist	Long Edge	835	278
	2 x 31-1/2 x 96"	Steel	3	218 Ts/3-1/4" 14-Gauge/2"w	2/Joist/Panel	12" o.c. sides + ends	Joist	Long Edge	1530	509
Tile T & G	2 x 31-1/2 x 96"	Steel	96"	000-5-14-2+S-25/2"w	32" o.c.+2/Joist	S-25@16" +3/End	T&G + Per	Long Edge	696	231

<sup>1</sup> Values over wood joists are conservative compared to values over steel.  
<sup>2</sup> Adhesive is to meet the requirements of AFG-01. A 3/8" bead of adhesive is to be used. Approximately 50 linear feet of adhesive per quart tube. Specific adhesive used on test assemblies was Miracle® SFA-66 adhesive.  
<sup>3</sup> Spans achieved by bulb tee, not Tectum® tile.

### TECTUM® PRODUCTS – SUSTAINABLY MADE

- Made with wood fibers (excelsior) from self-propagating Wisconsin Aspen trees
- All Wisconsin Aspen used for Tectum® products is air-dried and aged naturally
- No chemicals are used to produce excelsior purchased by Armstrong Building Solutions
- All excelsior used in Tectum products comes from a single source that is Forest Stewardship Council (FSC) certified
- The magnesium sulfate binder has been manufactured on site by reclaiming waste materials since production first began in 1949
- The secondary binder is composed of sodium silicate and calcium carbonate (limestone)
- All water used in the manufacture of Tectum products is captured and recycled
- Have Environmental Product Declarations (EPDs) which tell you the impact of the products
- Have Health Product Declarations (HPDs) which tell you what's in the products
- Are free of Red List chemicals per Living Building Challenge 3.0 (including no added formaldehyde)

### TECTUM PRODUCTS AND LEED®

Armstrong® Tectum Roof Deck products may contribute to the following LEED® V4 credit areas:

#### Energy & Atmosphere (EA)

- Minimum Energy Performance
- Optimize Energy Performance

#### Materials & Resources (MR)

- Construction Waste Management
- Regional Materials
- Building Life Cycle Reduction
- Interiors Life Cycle Reduction
- Building Disclosure and Optimization – Environmental Product Declaration
- Building Disclosure and Optimization – Sourcing of Raw Materials
- Building Disclosure and Optimization – Material Ingredients

#### Indoor Environmental Quality (EQ)

- Acoustic Performance

### MORE INFORMATION

For more information, or for an Armstrong Building Solutions representative, call 1 877 276-7876. For complete technical information, detail drawings, CAD design assistance, installation information, and many other technical services, call TechLine customer support at 1 877 276-7876 or email [techline@armstrongceilingsolutions.com](mailto:techline@armstrongceilingsolutions.com).

For the latest product selection and specification data, visit [armstrongbuildingsolutions.com/tectum](http://armstrongbuildingsolutions.com/tectum).

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STANDARD ROOF DECK PANELS