

# TECTUM® E & TECTUM E-N

## Structural Acoustical Roof Deck



Three-in-One Composite Roof Deck Panels provide acoustics, insulation, and a nailable surface that accepts a wide variety of roofing materials.

### KEY SELECTION ATTRIBUTES

- Sound absorption – NRC up to 0.80
- R-value up to 43.76
- Spans up to 8 feet
- Diaphragm shear up to 437 dsn/lf
- Nailable surface
- Low or high slope applications

### TYPICAL APPLICATIONS

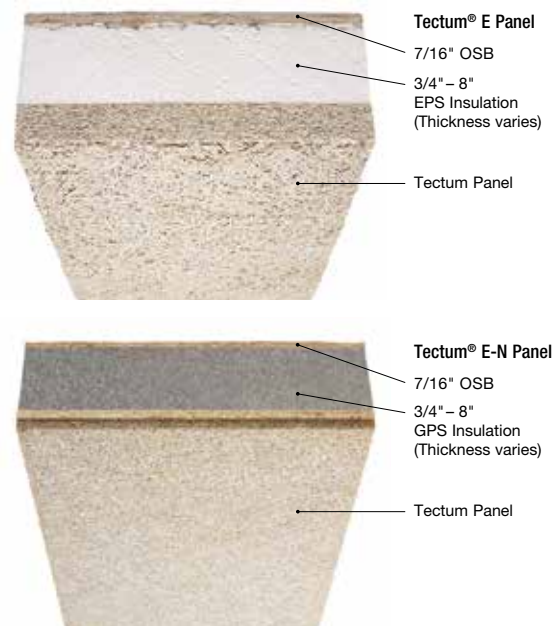
- Schools
- Gymnasiums
- Auditoriums

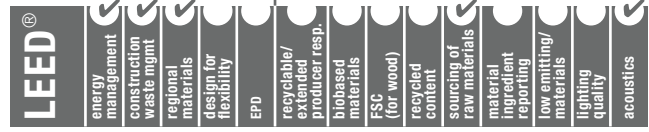
### TECTUM® E

Tectum® E Roof Deck panel is a composite of 1-1/2" or thicker Tectum I panel, EPS (expanded polystyrene) insulation with the slip-resistant OSB. The EPS core exceeds the requirements of ASTM C-578 Type 1 and bears the UL classification mark.

### TECTUM® E-N

Tectum® E-N roof deck panel is a composite of a 1-1/2" or thicker Tectum® I panel, NEOPOR® GPS (Graphite Enhanced Polystyrene) insulation with the slip-resistant OSB. The GPS core exceeds the requirements of ASTM C-578 Type 1 and bears the UL classification mark.





LOCATION DEPENDENT

THICKNESS DEPENDENT

# TECTUM® E & TECTUM E-N

## Structural Acoustical Roof Deck design guidelines

### TECTUM® E & TECTUM® E-N ROOF DECK DESIGN LOAD DATA

System	Thickness <sup>1</sup>	Wt. (PFS) <sup>1</sup>	Design Load Data (lbs./sq. ft.)																
			24"	30"	36"	38"	40"	42"	44"	48"	50"	52"	54"	60"	66"	72"	84"	96"	
Plank	2-3/4"	4.2	200	125	100	90	80	74	65	50									
	3-1/2"	4.2	200	150	135	120	110	100	90	75	70	65	60	50					
	4"	4.3	200	180	165	150	135	125	115	95	85	75	70	60	55	50	35		
	5"	4.4		200	195	175	155	140	120	110	100	95	85	70	65	60	45		
	6", 7"	4.4, 4.5									200	180	170	160	150	125	105	75	60
	8", 9", 10"	4.6, 4.7, 4.8												200	165	130	100	75	

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

### TECTUM® E THERMAL PERFORMANCE

(Based on 1-1/2" Tectum Substrate)

Insulating Foam Thickness	Total <sup>1</sup> Thickness	R-Value <sup>2</sup>	Weight PSF
3/4"	2-3/4"	7.24	3.6
1-1/2"	3-1/2"	10.13	3.8
2"	4"	12.06	3.9
3"	5"	15.91	4.7
4"	6"	19.76	4.8
5-1/4"	7-1/4"	24.57	5.2
6-1/2"	8-1/2"	29.38	5.4
7"	9"	31.31	5.6
8"	10"	35.16	6.0

<sup>1</sup> Total thickness includes 7/16" OSB nailable top surface.  
<sup>2</sup> R-values include air films and built-up roofing.

### TECTUM® E & TECTUM® E-N 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	4 x 47 x 144"	Wood 72"	6" 14-Gauge Sip Scr	3/Joist/Panel	12" o.c. sides + ends	T&G + Joist	None	1042	346
	5 x 47 x 168"	Wood 84"	6" 14-Gauge Sip Scr	3/Joist/Panel	12" o.c. sides + ends	T&G + Joist	None	1012	336
	5 x 48 x 96"	Wood 96"	6" 14-Gauge Sip Scr	4/Joist/Panel	12" o.c. sides + ends	T&G + Joist	None	604	201
Plank/ Overlay	5 x 47 x 96"	Wood 96"	6" 14-Gauge Sip Scr	4/Joist/Panel	8" o.c. sides + ends	T&G + Joist	None	1315	437
	7/16 x 48 x 96"	OSB -	2" x 16-Gauge Staples	8"@24" Centers	4" o.c. sides + ends	Per & 24" o.c.	None	1315	437

<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.

### TECTUM® E-N THERMAL PERFORMANCE

(Based on 1-1/2" Tectum Substrate)

Insulating Foam Thickness	Total <sup>1</sup> Thickness	R-Value <sup>2</sup>	Weight PSF
3/4"	2-3/4"	7.96	3.6
1-1/2"	3-1/2"	11.56	3.8
2"	4"	13.96	3.9
3"	5"	18.76	4.7
4"	6"	23.56	4.8
5-1/4"	7-1/4"	29.56	5.2
6-1/2"	8-1/2"	35.56	5.4
7"	9"	37.96	5.6
8"	10"	43.76	6.0

<sup>1</sup> Total thickness includes 7/16" OSB nailable top surface.  
<sup>2</sup> R-values include air films and built-up roofing.

COMPOSITE ROOF DECK PANELS

### 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

### 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 – Sourcing of Raw Materials
- 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).