

STRONGWELL®

Supplied by



FIBERGLASS DECKING SYSTEMS

SAFPLANK®, **SAFDECK®** and **STRONGDEK™**



SAFPLANK®



SAFDECK®



STRONGDEK™

SAFPLANK® Interlocking Decking System



SAFPLANK® panels are used as air-tight drainage covers in a residential area of Hong Kong for odor control. The lightweight panels provide a safe walking surface and also allows easy access below the covers.



SAFPLANK® odor control covers at a wastewater treatment plant in Smithfield, RI, will withstand the corrosive environment, providing years of trouble-free service.



SAFPLANK® is an excellent material for use on docks. The rot-proof material is both skid resistant and low in thermal conductivity - making it safe for bare feet.



SAFPLANK®, when turned upside down, serves as an excellent concrete forming system in applications where corrosion and weight are construction concerns.

Features

SAFPLANK® is a high strength system of fiberglass planks designed to interlock to form a continuous solid surface. SAFPLANK® is intended to replace wood, aluminum or steel planks in environments where corrosion or rotting creates costly maintenance problems or unsafe conditions.

SAFPLANK® panels are:

- Corrosion Resistant
- Strong
- Easy to Maintain
- Non-sparking
- Easy to Install
- Lightweight
- Low in Conductivity
- Interlocking

Sizes

SAFPLANK® is available in 2" deep panels in 12" and 24" widths and in a slotted version to offer flexibility in design. Stock panels are available in 20' and 24' lengths. Other lengths are available upon request. SAFPLANK® may be ordered with a smooth surface for non-pedestrian applications.

Materials of Construction

SAFPLANK® is a composite of fiberglass reinforcements (glass and mat) and a thermoset resin system. The pultrusion process is used to produce the panels.

The standard resin system is a slate gray fire retardant polyester resin meeting the requirements of Class 1 flame spread rating of 25 or less per ASTM E-84 and the self-extinguishing requirements of ASTM D-635. The resin is UV inhibited and the composite includes a surface veil on all exposed surfaces for enhanced corrosion and UV protection. Other resins and colors are available upon request.

The standard grit system for SAFPLANK® is a polyurethane based fine grit. This grit system is recommended for light pedestrian traffic only. Other grit systems available include epoxy medium and epoxy coarse and may be more appropriate for applications with heavier traffic.

Applications

SAFPLANK® is designed to be used for flooring and covers.

Typical applications include:

- Temporary Flooring
- Odor Control Covers
- Windwalls
- Dock Surfacing
- Roofing Walkways
- Cellular Wall Panels
- Concrete Forming Systems

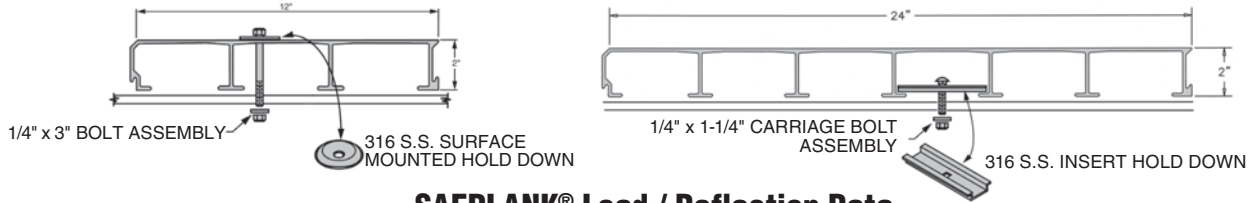


SAFPLANK® is offered in a slotted version to facilitate drainage like shown here on a Philadelphia Eagles stadium deck. Slots are placed in a longitudinal or transverse direction to the plank support to meet ADA standards.

SAFPLANK® Mechanical Properties

Accessories

Two hold-down connections are available for installing SAFPLANK®. Both hold-downs can be used with either 12" or 24" wide SAFPLANK®.



SAFPLANK® Load / Deflection Data

SPAN	12" SAFPLANK® $I_{12} = 1.69 \text{ in.}^4$, $\text{wt} = 2.6 \text{ lb/lin. ft. (gritted)}$						24" SAFPLANK® $I_{24} = 3.10 \text{ in.}^4$, $\text{wt} = 5.1 \text{ lb/lin. ft. (gritted)}$					
	50 $u=2394$ $c=730$	100 $u=4788$ $c=1460$	200 $u=9576$ $c=2920$	300 $u=14364$ $c=4380$	500 $u=23990$ $c=7300$	1000 $u=47888$ $c=14600$	100 $u=4788$ $c=1460$	200 $u=9576$ $c=2920$	300 $u=14364$ $c=4380$	500 $u=28990$ $c=7300$	1000 $u=47888$ $c=14600$	
24" 610 mm	Δu	.006	.011	.023	.034	.057	.113	.015	.030	.045	.075	.151
	Δu	.152	.279	.584	.864	1.448	2.87	.381	.762	1.143	1.905	3.835
	Δc	< .005	.009	.018	.027	.045	.091	.012	.024	.036	.060	.121
	Δc	< .127	.229	.457	.686	1.143	2.311	.305	.610	.914	1.524	3.073
36" 914 mm	Δu	.022	.043	.087	.130	.217	.434	.046	.092	.138	.231	.462
	Δu	.559	1.092	2.210	3.302	5.512	11.024	1.168	2.337	3.505	5.867	11.734
	Δc	.012	.023	.046	.070	.116	.232	.024	.049	.074	.123	.246
	Δc	.305	.584	1.168	1.778	2.946	5.893	.610	1.245	1.870	3.124	6.248
48" 1219 mm	Δu	.062	.123	.247	.370	.617	1.234	.133	.265	.398	.663	1.326
	Δu	1.575	3.124	6.274	9.398	15.664	31.328	3.378	6.731	10.109	16.515	33.030
	Δc	.025	.049	.099	.148	.247	.494	.053	.106	.159	.265	.530
	Δc	.635	1.245	2.515	3.759	6.274	12.548	1.346	2.692	4.039	6.731	13.462
60" 1524 mm	Δu	.140	.281	.562	.843	1.405	2.810	.302	.605	.907	1.814	3.628
	Δu	3.556	7.137	14.275	21.412	35.687	71.374	7.671	15.367	23.050	46.100	92.200
	Δc	.045	.090	.180	.270	.450	.900	.097	.193	.290	.484	.968
	Δc	1.143	2.286	4.572	6.858	11.43	22.86	2.464	4.902	7.417	12.294	24.588
72" 1829 mm	Δu	.291	.583	1.166	1.749	2.915	5.830	.627	1.254	1.881	3.135	6.270
	Δu	7.391	14.808	29.616	44.424	74.040	148.080	15.926	31.852	47.778	79.630	159.260
	Δc	.078	.155	.311	.466	.777	1.554	.167	.334	.501	.835	1.670
	Δc	1.981	3.937	7.899	11.836	19.727	39.454	4.242	8.611	12.725	21.285	42.570

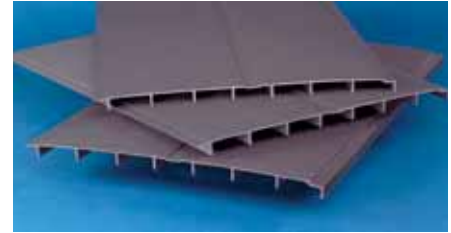
SAFPLANK® Load / Deflection Data (Inverted)

SPAN	12" SAFPLANK® $I_{12} = 1.69 \text{ in.}^4$, $\text{wt} = 2.6 \text{ lb/lin. ft. (gritted)}$						24" SAFPLANK® $I_{24} = 3.10 \text{ in.}^4$, $\text{wt} = 5.1 \text{ lb/lin. ft. (gritted)}$					
	50 $u=2394$ $c=730$	100 $u=4788$ $c=1460$	200 $u=9576$ $c=2920$	300 $u=14364$ $c=4380$	500 $u=23990$ $c=7300$	1000 $u=47888$ $c=14600$	100 $u=4788$ $c=1460$	200 $u=9576$ $c=2920$	300 $u=14364$ $c=4380$	500 $u=28990$ $c=7300$	1000 $u=47888$ $c=14600$	
24" 610 mm	Δu	.007	.014	.026	.040	.062	.124	.017	.030	.054	.086	.161
	Δu	.178	.356	.660	1.016	1.575	3.150	.432	.762	1.372	2.184	4.089
	Δc	.006	.011	.023	.033	.053	.099	.014	.026	.039	.057	.138
	Δc	.152	.279	.584	.838	1.346	2.515	.356	.660	.991	1.448	3.505
36" 914 mm	Δu	.024	.046	.089	.121	.202	.404	.051	.109	.161	.261	.522
	Δu	.610	1.168	2.261	3.073	5.122	10.244	1.295	2.769	4.089	6.629	13.258
	Δc	.013	.026	.050	.074	.118	.233	.030	.055	.080	.130	.287
	Δc	.330	.660	1.270	1.880	2.997	5.918	.762	1.397	2.032	3.302	7.292
48" 1219 mm	Δu	.064	.120	.237	.350	.584	1.168	.130	.287	.414	.690	1.380
	Δu	1.626	3.048	6.020	9.030	14.717	29.434	3.302	7.290	10.516	17.193	34.386
	Δc	.029	.053	.102	.148	.239	.469	.055	.106	.157	.259	.518
	Δc	.737	1.346	2.591	3.759	6.071	11.913	1.397	2.692	3.988	6.579	13.158
60" 1524 mm	Δu	.138	.266	.532	.798	1.310	2.620	.286	.634	.951	1.602	3.204
	Δu	3.525	6.756	13.512	20.268	33.780	67.560	7.264	16.104	24.156	39.584	79.168
	Δc	.047	.088	.175	.258	.426	.852	.095	.186	.278	.457	.914
	Δc	1.194	2.235	4.445	6.553	10.820	21.640	2.413	4.724	7.061	11.608	23.216
72" 1829 mm	Δu	.268	.536	1.072	1.608	2.613	5.226	.622	1.244	1.866	3.110	6.220
	Δu	6.807	13.614	27.228	40.842	67.710	135.420	15.799	31.598	47.397	79.015	158.030
	Δc	.079	.150	.289	.430	.717	1.434	.150	.298	.442	.740	1.480
	Δc	2.007	3.810	7.341	10.922	18.167	36.334	3.810	7.569	11.227	18.796	37.592

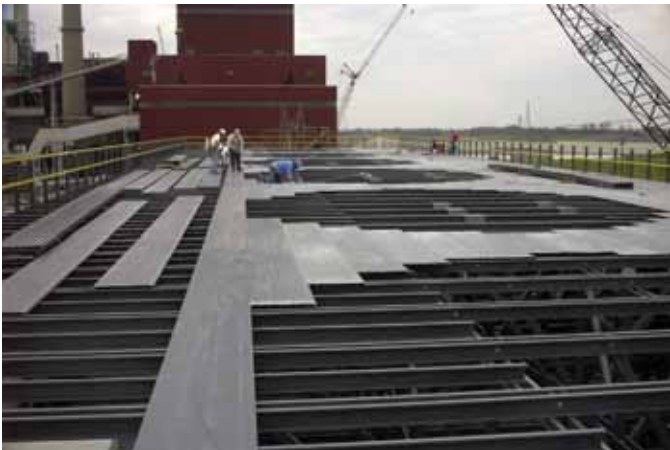
Maximum deflections shown are based on a deflection of approximately L/100. To calculate the maximum deflection for a simply supported continuous beam spanning two equal lengths with the uniform or concentrated load on one span only, multiply the above deflections by 0.71. For ventilated SAFPLANK®, divide deflection values by .95.

SAFPLANK® joints have been tested for 300 lbs. concentrated point load applied over 4 in.² area (See ASCE 7 - Minimum Design Loads for Buildings and other Structures). For 24" span, a 300 lb. concentrated load has a factor of safety (FS) of 6, a 36" span has an FS of 4 and a 48" span has an FS of 3. Spans should be limited to 48" for this type of loading.

SAFDECK® Overlapping Decking System



SAFDECK® is used to construct fan decks on cooling towers. The profile height of 1-1/8" is specifically designed to be used as a permanent replacement for rotting plywood on cooling tower fan decks.



SAFDECK® is lightweight and easy to install, especially in rooftop applications like this cooling tower fan deck. The quick screw-down construction of the SAFDECK® system ensures rapid installation and reduced field labor costs.



A SAFDECK® fan deck is a durable and strong surface, unlike wood decks.

Features

Strongwell's SAFDECK® is a specially designed system of 24" wide, slip resistant, fiberglass panels that overlap for a continuous solid surface. SAFDECK® is intended to replace wood, aluminum or steel decking in environments where corrosion or rotting creates costly maintenance problems or unsafe conditions. Low in conductivity and non-sparking, SAFDECK® provides safe walkways in applications near electrical lines.

SAFDECK® panels are:

- Corrosion Resistant
- Strong
- Slip Resistant
- Non-sparking
- Easy to Install
- Lightweight
- Low in Conductivity
- Overlapping

Sizes

SAFDECK® is available in 1-1/8" deep panels in 24" widths. The decking system is designed to be a one-for-one replacement for plywood and has a 60-pound per square foot rating at 3-foot spans with less than L/180 deflection.

All panels are gritted and are available in 20' and 24' lengths. Other lengths are available upon request. SAFDECK® may be ordered with a smooth surface for non-pedestrian applications.

Materials of Construction

SAFDECK® is a high strength, one-piece, overlapping panel system. Manufactured of pultruded fiberglass reinforced polymer (FRP), SAFDECK® is particularly well suited for corrosive environments.

The standard resin system is a slate gray fire retardant polyester resin meeting the requirements of Class 1 flame spread rating of 25 or less per ASTM E-84 and the self-extinguishing requirements of ASTM D-635. The resin is UV inhibited and the composite includes a surface veil on all exposed surfaces for enhanced corrosion and UV protection. Other resins and colors are available upon request.

The standard grit system for SAFDECK® is a polyurethane based fine grit. This grit system is recommended for light pedestrian traffic only. Other grit systems available include epoxy medium and epoxy coarse and may be more appropriate for applications with heavier traffic.

Applications

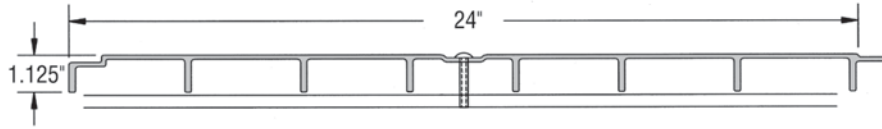
SAFPLANK® is designed to be used for flooring and covers.

Typical applications include:

- Cooling Tower Decking
- Odor Control Covers
- Roofing Walkways
- Temporary Flooring
- Wind Walls
- Cellular Wall Panels

SAFDECK® can also be supplied with a smooth surface for use in hot water basin applications.

SAFDECK® Mechanical Properties



24" SAFDECK® Load / Deflection Data

$I_{12} = 0.4399 \text{ in.}^4$ Wt = 4.1 lb./lin. ft. (gritted)

SPAN LENGTH (I)		25	50	60	75	100	200	300
		u=1197 c=365	u=2394 c=730	u=2873 c=876	u=3591 c=1095	u=4788 c=1460	u=9576 c=2920	u=14364 c=4380
24" 610mm	Δu	0.015	0.030	0.036	0.044	0.059	0.119	0.179
	Δu	0.38	0.76	0.91	1.12	1.50	3.02	4.55
	Δc	0.012	0.023	0.029	0.036	0.048	0.096	0.143
	Δc	0.30	0.58	0.74	0.91	1.22	2.44	3.63
36" 914mm	Δu	0.063	0.126	0.151	0.189	0.252		
	Δu	1.60	3.20	3.84	4.80	6.40		
	Δc	0.032	0.064	0.81	0.101	0.134	0.269	
	Δc	0.81	1.63	2.06	2.57	3.40	6.83	
48" 1219mm	Δu	0.215	0.430					
	Δu	5.46	10.92					
	Δc	0.073	0.147	0.206	0.257	0.343		
	Δc	1.85	3.73	5.23	6.53	8.71		

Maximum deflections shown are based on a deflection of approximately $L/100$. To calculate the maximum deflection for a simply supported continuous beam spanning two equal lengths with the uniform or concentrated load on one span only, multiply the above deflections by 0.71.

u = Uniform load in lbs/ft² (N/m²). For example, a 100 lb. uniform load over 3 ft.² is 300 lbs. of total load.

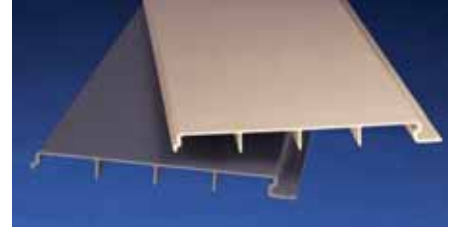
Δu = Typical deflection under the uniform load in inches (mm)

c = Concentrated load in lbs/ft of width (N/m of width)

Δc = Typical deflection under concentrated load in inches (mm)



STRONGDEK™ Architectural Decking System



2003

STRONGDEK™ decking was installed at the Perdido Beach Resort in Orange Beach, Alabama in 2003. The attractive deck was subject to Hurricane Dennis in 2005 and several panels were blown away during the storm. When several of the panels were recovered they were easily re-installed and were still in good condition.

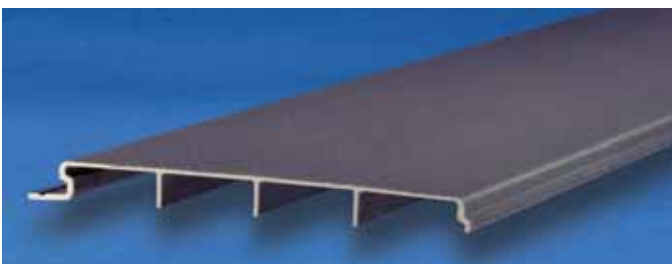


2007



2007

The deck remains as attractive and strong today as you can see from the photos above, taken in 2007. Four years of beach weathering has had minimal effect on the Perdido Beach installation of STRONGDEK™. The resort's owner, Jim Medlock, said "The deck has held up very well. During the summer months, it has a function on it just about every Friday and Saturday night!"



Light Gray STRONGDEK™ with optional grit.

Features

STRONGDEK™ fiberglass decking is an attractive, low-maintenance architectural decking system that offers an alternative to traditional decking materials. The panels will not rot, rust, chip or mildew, which make them ideal for high-moisture environments, including saltwater. STRONGDEK™ commonly replaces wood or plastic lumber in applications requiring stronger decking materials.

STRONGDEK™ panels are designed to connect to form a continuous solid surface utilizing an innovative interlocking design. The deck sections are easily installed with screw-like fasteners that are not visible, creating a smooth, attractive surface.



STRONGDEK™ panels are:

- Easy to Install
- Strong
- Slip Resistant
- Lightweight
- Hidden Fastening System
- Rot, Rust & Mildew Resistant
- Low in Conductivity

Sizes

STRONGDEK™ is 12" wide and standard 24' panels are available in stock. Panels can also be produced in any length that is practical.

Materials of Construction

STRONGDEK™ is a high strength, planking panel system. Manufactured of pultruded fiberglass reinforced polymer (FRP). STRONGDEK™ panels have intermediate ribs on each panel that help provide extra stiffness and strength, allowing the deck to perform ideally in areas with pedestrian traffic. An optional grit surface can be added to provide a non-skid surface. Standard colors are light gray and beige.

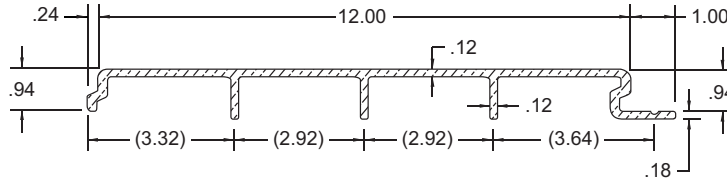
Applications

STRONGDEK™ is designed to be used for flooring.

Typical applications include:

- Hotel Recreational Areas
- Homes and Condominiums
- Buildings in Coastal Areas
- Marinas and Docks

STRONGDEK™ Mechanical Properties



STRONGDEK™ Load / Deflection Data

$I_{12} = 0.31 \text{ in.}^4$ $Wt = 1.87 \text{ lb./lin. ft. (gritted)}$

SPAN		50	100	150	200	250	300	350	400	450	500	550	600	650
		$u=2394$ $c=730$	$u=4788$ $c=1460$	$u=7182$ $c=2190$	$u=9576$ $c=2920$	$u=11970$ $c=3650$	$u=14364$ $c=4380$	$u=16758$ $c=5110$	$u=19152$ $c=5840$	$u=21546$ $c=6570$	$u=23940$ $c=7300$	$u=26334$ $c=8030$	$u=28728$ $c=8760$	$u=31122$ $c=9490$
24" 610mm	Δu	0.019	0.026	0.034	0.041	0.048	0.054	0.073	0.080	0.086	0.094	0.100	0.107	0.113
	Δu	0.488	0.671	0.853	1.036	1.219	1.372	1.859	2.042	2.195	2.377	2.530	2.713	2.865
	Δc	0.016	0.022	0.028	0.034	0.04	0.045	0.061	0.067	0.072	0.078	0.083	0.089	0.094
	Δc	0.406	0.559	0.711	0.864	1.016	1.143	1.549	1.702	1.829	1.981	2.108	2.261	2.388
30" 762mm	Δu	0.032	0.041	0.056	0.069	0.081	0.096	0.117	0.131	0.144	0.155	0.165	0.179	
	Δu	0.800	1.029	1.410	1.753	2.057	2.438	2.972	3.315	3.658	3.924	4.191	4.534	
	Δc	0.021	0.027	0.037	0.046	0.054	0.064	0.078	0.087	0.096	0.103	0.11	0.119	
	Δc	0.533	0.686	0.940	1.168	1.372	1.626	1.981	2.210	2.438	2.616	2.794	3.023	
36" 914mm	Δu	0.047	0.065	0.090	0.115	0.140	0.169	0.207	0.227	0.252				
	Δu	1.189	1.646	2.286	2.926	3.566	4.298	5.258	5.761	6.401				
	Δc	0.026	0.036	0.05	0.064	0.078	0.094	0.115	0.126	0.14				
	Δc	0.660	0.914	1.270	1.626	1.981	2.388	2.921	3.200	3.556				
42" 1067mm	Δu	0.067	0.101	0.145	0.191	0.239	0.288	0.340	0.365					
	Δu	1.707	2.560	3.680	4.854	6.081	7.308	8.641	9.281					
	Δc	0.032	0.048	0.069	0.091	0.114	0.137	0.162	0.174					
	Δc	0.813	1.219	1.753	2.311	2.896	3.480	4.115	4.420					
48" 1220mm	Δu	0.096	0.158	0.233	0.310	0.391	0.463							
	Δu	2.438	4.023	5.913	7.864	9.936	11.765							
	Δc	0.04	0.066	0.097	0.129	0.163	0.193							
	Δc	1.016	1.676	2.464	3.277	4.140	4.902							
54" 1372mm	Δu	0.138	0.246	0.370	0.497	0.626								
	Δu	3.498	6.241	9.395	12.619	15.911								
	Δc	0.051	0.091	0.137	0.184	0.232								
	Δc	1.295	2.311	3.480	4.674	5.893								

STRONGDEK™ panels were attached to beams with tek screws and tested in a multi-panel configuration. This data was used to create the STRONGDEK™ load table above for a single panel.

u = Uniform load in lbs/ft² (N/m²). For example, a 100 lb. uniform load over 3 ft² is 300 lbs. of total load.

Δu = Typical deflection under the uniform load in inches (mm)

c = Concentrated load in lbs/ft of width (N/m of width)

Δc = Typical deflection under concentrated load in inches (mm)



STRONGDEK™ can also be paired with Strongwell's architectural handrail and fencing to create an attractive area with long-lasting beauty.

Please contact:

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Pipex px® is the trading style used by the group of companies which includes Pipex Limited, Pipex Drainage & Civils Ltd, Pipex Composite Pipes Ltd, Pipex Structural Composites Ltd & Pipex Project Services Ltd.
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