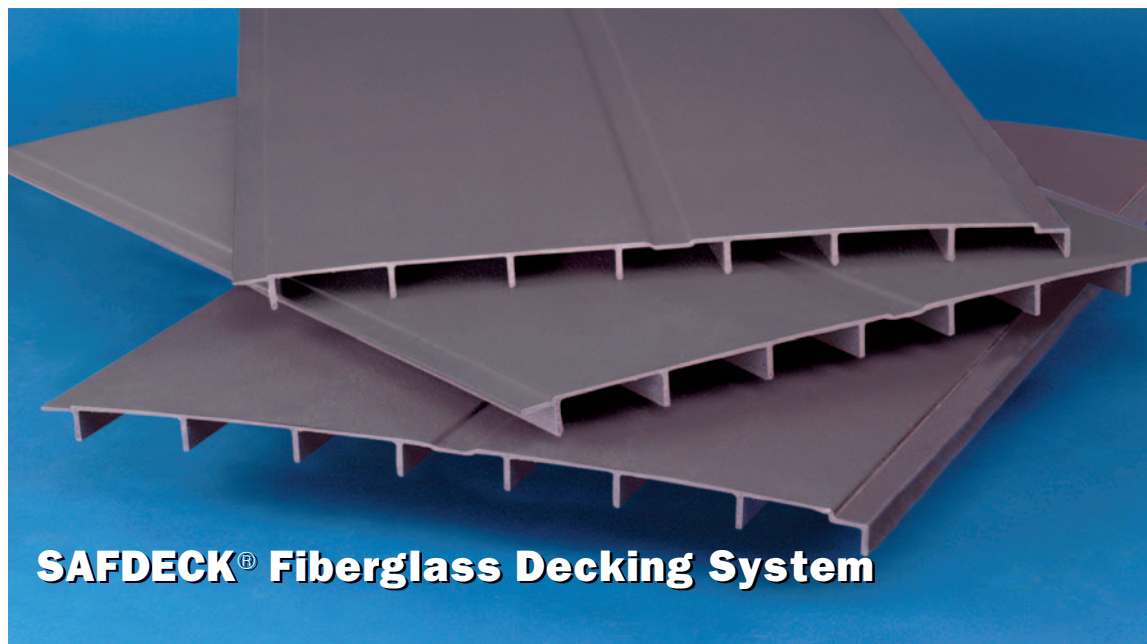
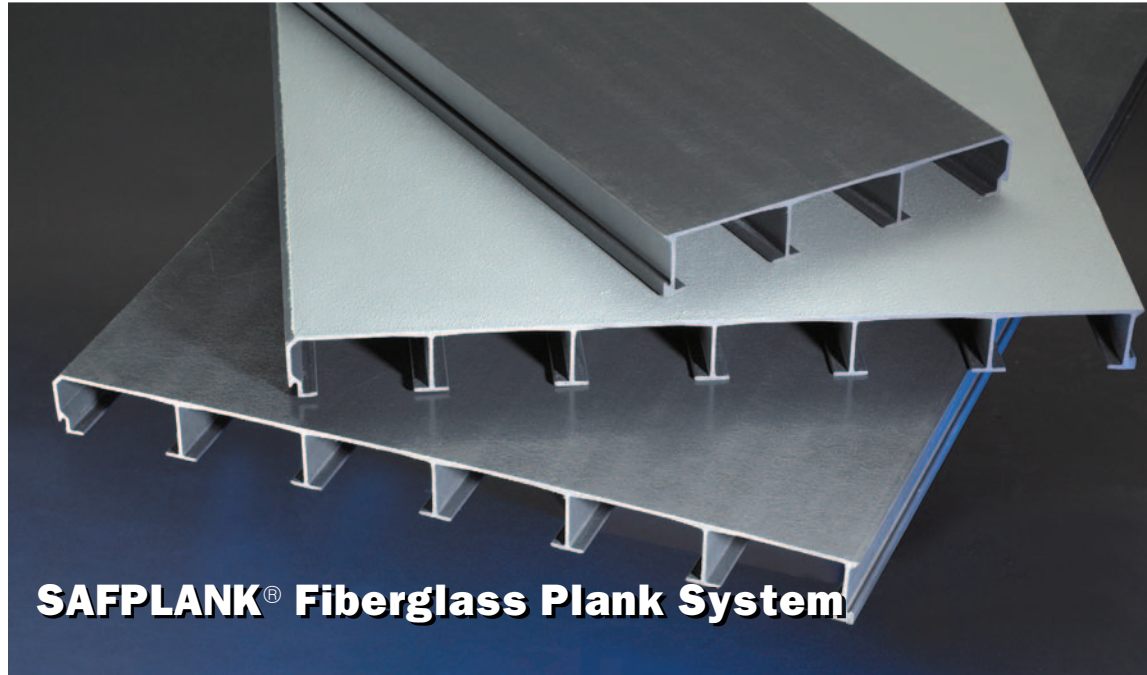




GEF Incorporated
Innovative Solutions in Fiberglass

FIBERGLASS FLOORING AND DECKING SYSTEMS





Innovative Solutions in Fiberglass

SAFPLANK® Fiberglass Plank System



SAFPLANK® panels are used as tank covers at the Spring Creek Trout Hatchery in Lewistown, Montana. The lightweight panels allow easy access to the tanks and provide a safe walking surface for the staff.

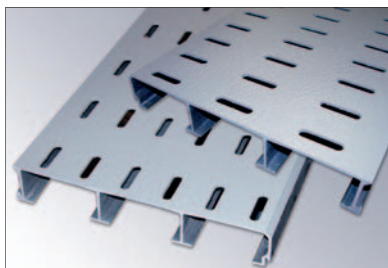


Odor control covers at a wastewater treatment plant in Smithfield, Rhode Island, will withstand the corrosive environment to provide years of trouble-free service.



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

(right) SAFPLANK® is offered in a slotted version to facilitate drainage where runoff is a problem. Slots are placed in a longitudinal or transverse direction to the plank support to meet ADA standards.



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 both 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 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.

Applications

SAFPLANK® is designed to be used for flooring and covers. Typical applications include:

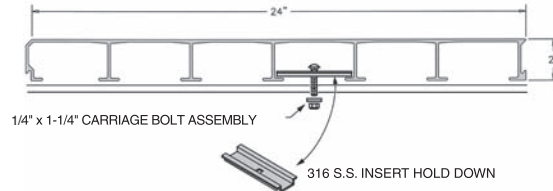
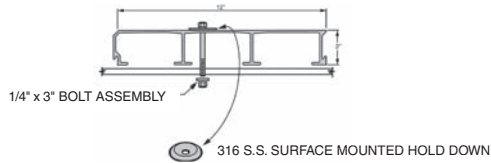
- Cooling Tower Decking
- Temporary Flooring
- Odor Control Covers
- Windwalls
- Roofing Walkways
- Cellular Wall Panels
- Concrete Forming Systems



Innovative Solutions in Fiberglass

Accessories

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



Mechanical Properties

SAFPLANK® Load / Deflection Data (Right Side Up Position)

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	100	200	300	500	1000	100	200	300	500	1000
		(u=2394) (c=730)	(u=4788) (c=1460)	(u=9576) (c=2920)	(u=14364) (c=4380)	(u=23990) (c=7300)	(u=47888) (c=14600)	(u=4788) (c=1460)	(u=9576) (c=2920)	(u=14364) (c=4380)	(u=28990) (c=7300)	(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	—	.046	.092	.138	.231	—
	Δu	(.559)	(1.092)	(2.210)	(3.302)	(5.512)	—	(1.168)	(2.337)	(3.505)	(5.867)	—
	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	—	—	.133	.265	.398	—	—
	Δu	(1.575)	(3.124)	(6.274)	(9.398)	—	—	(3.378)	(6.731)	(10.109)	—	—
	Δc	.025	.049	.099	.148	.247	.494	.053	.106	.159	.265	—
	Δc	(.635)	(1.245)	(2.515)	(3.759)	(6.274)	(12.548)	(1.346)	(2.692)	(4.039)	(6.731)	—
60" (1524 mm)	Δu	.140	.281	.562	—	—	—	.302	.605	—	—	—
	Δu	(3.556)	(7.137)	(14.275)	—	—	—	(7.671)	(15.367)	—	—	—
	Δc	.045	.090	.180	.270	.450	—	.097	.193	.290	.484	—
	Δc	(1.143)	(2.286)	(4.572)	(6.858)	(11.43)	—	(2.464)	(4.902)	(7.417)	(12.294)	—
72" (1829 mm)	Δu	.291	.583	—	—	—	—	.627	—	—	—	—
	Δu	(7.391)	(14.808)	—	—	—	—	(15.926)	—	—	—	—
	Δc	.078	.155	.311	.466	—	—	.167	.334	.501	—	—
	Δc	(1.981)	(3.937)	(7.899)	(11.836)	—	—	(4.242)	(8.611)	(12.725)	—	—

SAFPLANK® Load / Deflection Data (Upside Down Position)

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	100	200	300	500	1000	100	200	300	500	1000
		(u=2394) (c=730)	(u=4788) (c=1460)	(u=9576) (c=2920)	(u=14364) (c=4380)	(u=23990) (c=7300)	(u=47888) (c=14600)	(u=4788) (c=1460)	(u=9576) (c=2920)	(u=14364) (c=4380)	(u=28990) (c=7300)	(u=47888) (c=14600)
24" (610 mm)	Δu	.007	.014	.026	.040	.062	—	.017	.030	.054	.086	.161
	Δu	(.178)	(.356)	(.660)	(1.016)	(1.575)	—	(.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	—	—	.051	.109	.161	.261	—
	Δu	(.610)	(1.168)	(2.261)	(3.073)	—	—	(1.295)	(2.769)	(4.089)	(6.629)	—
	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	—	—	—	.130	.287	.414	—	—
	Δu	(1.626)	(3.048)	(6.020)	—	—	—	(3.302)	(7.290)	(10.516)	—	—
	Δc	.029	.053	.102	.148	.239	.469	.055	.106	.157	.259	—
	Δc	(.737)	(1.346)	(2.591)	(3.759)	(6.071)	(11.913)	(1.397)	(2.692)	(3.988)	(6.579)	—
60" (1524 mm)	Δu	.138	.266	—	—	—	—	.286	.634	—	—	—
	Δu	(3.525)	(6.756)	—	—	—	—	(7.264)	(16.104)	—	—	—
	Δc	.047	.088	.175	.258	.426	—	.095	.186	.278	.457	—
	Δc	(1.194)	(2.235)	(4.445)	(6.553)	(10.820)	—	(2.413)	(4.724)	(7.061)	(11.608)	—
72" (1829 mm)	Δu	.268	—	—	—	—	—	.622	—	—	—	—
	Δu	(6.807)	—	—	—	—	—	(15.799)	—	—	—	—
	Δc	.079	.150	.289	.430	—	—	.150	.298	.442	.740	—
	Δc	(2.007)	(3.810)	(7.341)	(10.922)	—	—	(3.810)	(7.569)	(11.227)	(18.796)	—

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.

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)

SAFDECK® Fiberglass Decking System

SAFDECK® is a system of 24" wide fiberglass panels designed to 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 nonsparking, SAFDECK® provides safe walkways in applications near electrical lines.

Typical applications include:

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



SAFDECK® is used to construct fan decks on cooling towers.

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.

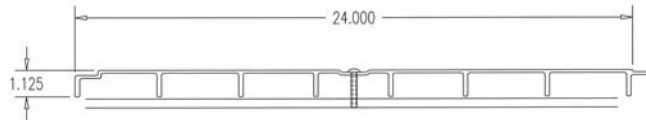
The standard resin system is a slate gray fire retardant polyester resin meeting the requirements of Class 1 rating of 25 or less per ASTM E-84 and the self-extinguishing requirements of ASTM D-635. The resin is UV inhibited and the composite includes a surface veil on all exposed surfaces for enhanced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

Availability

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.

SAFDECK® Load / Deflection Data



SPAN LENGTH (l)		24" SAFDECK® I = 0.4399 in. ⁴ Wt = 4.1 lb./lin. ft. (gritted)						
		25 (u=1197) (c=365)	50 (u=2394) (c=730)	60 (u=2873) (c=876)	75 (u=3591) (c=1095)	100 (u=4788) (c=1460)	200 (u=9576) (c=2920)	300 (u=14364) (c=4380)
24" (610 mm)	Δu	.015	.030	.036	.044	.059	.119	.179
	Δu	(.38)	(.76)	(.91)	(1.12)	(1.50)	(3.02)	(4.55)
	Δc	.012	.023	.029	.036	.048	.096	.143
	Δc	(.30)	(.58)	(.74)	(.91)	(1.22)	(2.44)	(3.63)
36" (914 mm)	Δu	.063	.126	.151	.189	.252	—	—
	Δu	(1.60)	(3.20)	(3.84)	(4.80)	(6.40)	—	—
	Δc	.032	.064	.081	.101	.134	.269	—
	Δc	(.81)	(1.63)	(2.06)	(2.57)	(3.40)	(6.83)	—
48" (1219 mm)	Δu	.215	.430	—	—	—	—	—
	Δu	(5.46)	(10.92)	—	—	—	—	—
	Δc	.073	.147	.206	.257	.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)



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