



EXCLUSIVELY
 MADE IN THE
USA

FIBERGLASS DECKING SYSTEMS

SAFPLANK[®], SAFPLANK HD[®], SAFDECK[®]



SAFPLANK[®]



SAFPLANK HD[®]



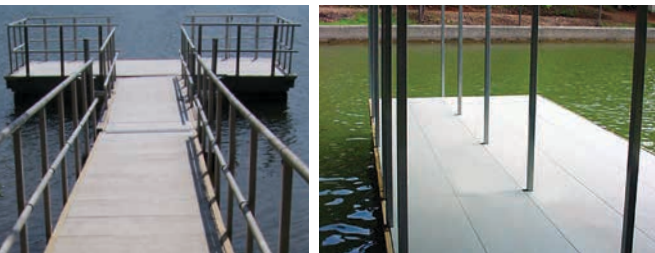
SAFDECK[®]



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® 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 inverted, serves as an excellent concrete forming system in applications where corrosion and weight are construction concerns. Polyester resin is acceptable when pultruded FRP shapes are used as a stay in place (SIP) form. For concrete installations where long-term structural integrity is required, vinyl ester resin should be used.

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
- Structurally Strong
- Low Maintenance
- Non-Sparking
- Easy to Install
- Lightweight
- Low in Electrical and Thermal Conductivity
- Interlocking

Sizes

SAFPLANK® is available in 2" deep panels measuring 12" or 24" wide. A slotted version is also available 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 grit surface or 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. Planks can be manufactured using polyester resin to ANSI/NSF standard 61 certified for potable water applications, if required.

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.

Surfaces can be gritted upon request using either an epoxy-based medium or coarse grit or a polyurethane-based medium grit.

Applications

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

Typical applications include:

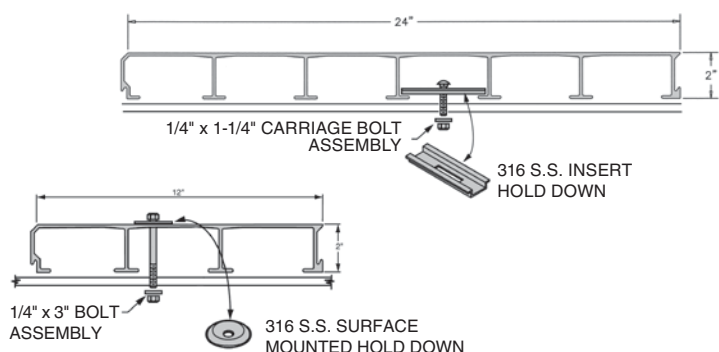
- Temporary Flooring
- Odor Control Covers
- Windwalls
- Dock Surfacing
- Roofing Walkways
- Cellular Wall Panels
- Concrete Forming Systems

Accessories

Edge cap channels are available to cover the ends of SAFPLANK® panels when required.



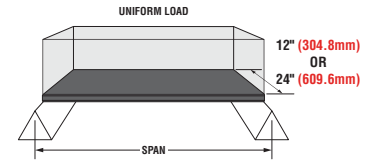
Two hold-down connections are available for installing SAFPLANK®. Both hold-downs can be used with either 12" or 24" wide SAFPLANK®.



SAFPLANK® Mechanical Properties

Uniform Load (Deflection in inches (mm))

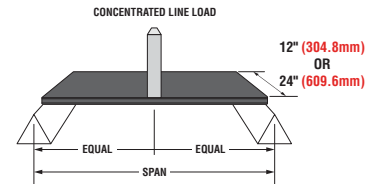
LOAD in LB / SQUARE FOOT (PSF) or KG / SQUARE METER (KG/M²)



		12" SAFPLANK® I ₁₂ = 1.69 in. ⁴ , wt = 2.6 lb / lin. ft. (gritted) or I ₁₂ = 7.03 x 10 ⁵ mm ⁴ , wt = 3.9 kg / lin. m						24" SAFPLANK® I ₂₄ = 3.01 in. ⁴ , wt = 5.1 lb / lin. ft. (gritted) or I ₂₄ = 1.25 x 10 ⁶ mm ⁴ , wt = 7.6 kg / lin. m				
		50 (244)	100 (488)	200 (976)	300 (1465)	500 (2441)	1000 (4882)	100 (488)	200 (976)	300 (1465)	500 (2441)	1000 (4882)
SPAN	PLANK ORIENTATION											
24" 610mm	REGULAR	0.006 0.152	0.011 0.279	0.023 0.584	0.034 0.864	0.057 1.448	0.113 2.870	0.015 0.381	0.030 0.762	0.045 1.143	0.075 1.905	0.151 3.835
	INVERTED	0.007 0.178	0.014 0.356	0.026 0.660	0.040 1.016	0.062 1.575		0.017 0.432	0.030 0.762	0.054 1.372	0.086 2.184	0.161 4.089
36" 914mm	REGULAR	0.022 0.559	0.043 1.092	0.087 2.210	0.130 3.302	0.217 5.512		0.046 1.168	0.092 2.337	0.138 3.505	0.231 5.867	
	INVERTED	0.024 0.610	0.046 1.168	0.089 2.261	0.121 3.073			0.051 1.295	0.109 2.769	0.161 4.089	0.261 6.629	
48" 1219mm	REGULAR	0.062 1.575	0.123 3.124	0.247 6.274	0.370 9.398			0.133 3.378	0.265 6.731	0.398 10.109		
	INVERTED	0.064 1.626	0.120 3.048	0.237 6.020				0.130 3.302	0.287 7.290	0.414 10.516		
60" 1524mm	REGULAR	0.140 3.556	0.281 7.137	0.562 14.275				0.302 7.671	0.605 15.367			
	INVERTED	0.138 3.525	0.266 6.756					0.286 7.264	0.634 16.104			
72" 1829mm	REGULAR	0.291 7.391	0.583 14.808					0.627 15.926				
	INVERTED	0.268 6.807						0.622 15.799				

Concentrated Load (Deflection in inches (mm))

LOAD in LB / FOOT of WIDTH or KG / METER of WIDTH

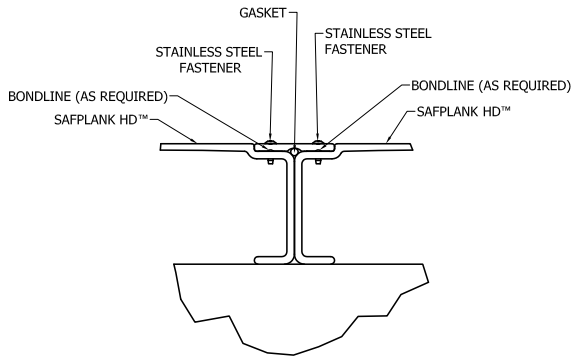
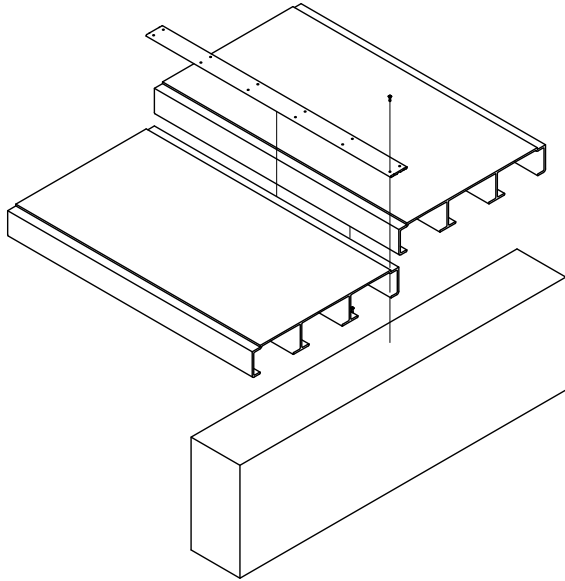


SPAN PLANK ORIENTATION		12" SAFPLANK® I ₁₂ = 1.69 in. ⁴ , wt = 2.6 lb / lin. ft. (gritted) or I ₁₂ = 7.03 x 10 ⁵ mm ⁴ , wt = 3.9 kg / lin. m						24" SAFPLANK® I ₂₄ = 3.01 in. ⁴ , wt = 5.1 lb / lin. ft. (gritted) or I ₂₄ = 1.25 x 10 ⁶ mm ⁴ , wt = 7.6 kg / lin. m				
		50 (74)	100 (149)	200 (298)	300 (446)	500 (744)	1000 (1488)	100 (149)	200 (298)	300 (446)	500 (744)	1000 (1488)
24" 610mm	REGULAR	< 0.005 < 0.127	0.009 0.229	0.018 0.457	0.027 0.686	0.045 1.143	0.091 2.311	0.012 0.305	0.024 0.610	0.036 0.914	0.060 1.524	0.121 3.073
	INVERTED	0.006 0.152	0.011 0.279	0.023 0.584	0.033 0.838	0.053 1.346	0.099 2.515	0.014 0.356	0.026 0.660	0.039 0.991	0.068 1.448	0.138 3.505
36" 914mm	REGULAR	0.012 0.305	0.023 0.584	0.046 1.168	0.070 1.778	0.116 2.946	0.232 5.893	0.024 0.610	0.049 1.245	0.074 1.870	0.123 3.124	0.246 6.248
	INVERTED	0.013 0.330	0.026 0.660	0.050 1.270	0.074 1.880	0.118 2.997	0.233 5.918	0.030 0.762	0.055 1.397	0.080 2.032	0.130 3.302	0.287 7.292
48" 1219mm	REGULAR	0.025 0.635	0.049 1.245	0.099 2.515	0.148 3.759	0.247 6.274	0.494 12.548	0.053 1.346	0.106 2.692	0.159 4.039	0.265 6.731	
	INVERTED	0.029 0.737	0.053 1.346	0.102 2.591	0.148 3.759	0.239 6.071	0.469 11.913	0.055 1.397	0.106 2.692	0.157 3.988	0.259 6.579	
60" 1524mm	REGULAR	0.045 1.143	0.090 2.286	0.180 4.572	0.270 6.858	0.450 11.430		0.097 2.464	0.193 4.902	0.290 7.417	0.484 12.294	
	INVERTED	0.047 1.194	0.088 2.235	0.175 4.445	0.258 6.553	0.426 10.820		0.095 2.413	0.186 4.724	0.278 7.061	0.457 11.608	
72" 1829mm	REGULAR	0.078 1.981	0.155 3.937	0.311 7.899	0.466 11.836			0.167 4.242	0.334 8.611	0.501 12.725		
	INVERTED	0.079 2.007	0.150 3.810	0.289 7.341	0.430 10.922			0.150 3.810	0.298 7.569	0.442 11.227	0.740 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.

Polyester resin is acceptable when pultruded FRP shapes are used as a stay in place (SIP) form. For concrete installations where long-term structural integrity is required, vinyl ester resin should be used. 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.

SAFPLANK HD® Heavy Duty Decking System

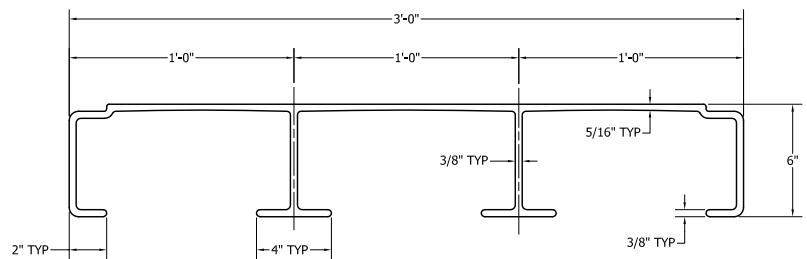


Features

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

SAFPLANK HD® panels are:

- Corrosion Resistant
- Strong
- Easy to Maintain
- Non-Sparking
- Easy to Install
- Lightweight
- Low Electrical and Thermal Conductivity



Sizes

SAFPLANK HD® is available in 6" (152.4 mm) deep panels in 36" (914.4 mm) widths. Stock panels are available in 24' (7.32 m) lengths. Other lengths are available upon request. SAFPLANK HD® may be ordered with a grit surface or with a smooth surface for non-pedestrian applications.

Materials of Construction

SAFPLANK HD® is a composite of fiberglass reinforcements (glass roving and continuous filament mat) and a thermoset resin system. The pultrusion process is used to produce the panels. Planks can be manufactured using polyester resin to ANSI/NSF standard 61 certified for potable water applications, if required.

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 incorporates a surface veil on all exposed surfaces for enhanced corrosion and UV protection. Other resins and colors are available upon request.

Surfaces can be gritted upon request using either an epoxy-based medium or coarse grit or a polyurethane-based medium grit.

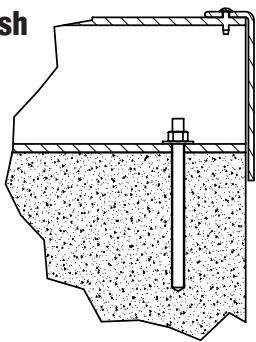
Applications

SAFPLANK HD® is designed to be used for numerous applications including:

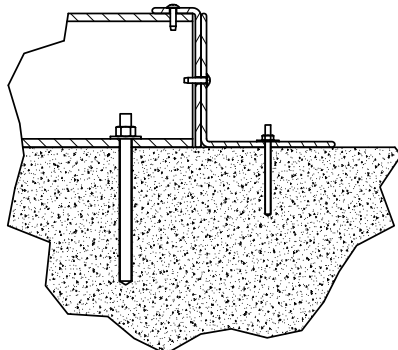
- Pedestrian Walkways
- Windwalls
- Roofing Walkways
- Concrete Forming Systems
- Odor Control Covers
- Dock Surfacing
- Cellular Wall Panels
- Temporary Flooring

END CLOSURE OPTIONS

Flush



Step

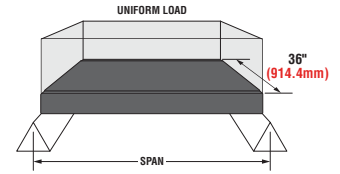


SAFPLANK HD® MECHANICAL PROPERTIES

Uniform Load (Deflection in inches (mm))

LOAD in LB / SQUARE FOOT (PSF) or KG / SQUARE METER (KG/M²)

$I = 129.8 \text{ in.}^4$, $A = 25.0 \text{ in.}^2$, $wt = 21.0 \text{ lb / lin. ft.}$ or $I = 5.4 \times 10^7 \text{ mm}^4$, $A = 16,129 \text{ mm}^2$, $wt = 31.32 \text{ kg / lin. m}$

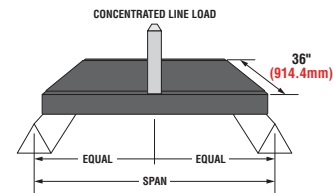


	40 (195)		60 (293)		80 (391)		100 (488)	
SPAN	Deflection	L/Ratio	Deflection	L/Ratio	Deflection	L/Ratio	Deflection	L/Ratio
10 ft 3.05m	0.07 1.78	1731	0.10 2.54	1154	0.14 3.56	865	0.17 4.32	692
12 ft 3.66m	0.14 3.56	1002	0.22 5.59	668	0.29 7.37	501	0.36 9.14	401
14 ft 4.27m	0.27 6.86	631	0.40 10.16	420	0.53 13.46	315	0.67 17.02	252
16 ft 4.88m	0.45 11.43	423	0.68 17.27	282	0.91 23.11	211	1.14 28.96	169
18 ft 5.49m	0.73 18.54	297	1.09 27.69	198	1.46 37.08	148		
20 ft 6.10m	1.11 28.19	216						
22 ft 6.71m	1.62 41.15	163						

Concentrated Line Load (Deflection in inches (mm))

LOAD in LB / FOOT of WIDTH or KG / METER of WIDTH

$I = 129.8 \text{ in.}^4$, $A = 25.0 \text{ in.}^2$, $wt = 21.0 \text{ lb / lin. ft.}$ or $I = 5.4 \times 10^7 \text{ mm}^4$, $A = 16,129 \text{ mm}^2$, $wt = 31.32 \text{ kg / lin. m}$



	100 (149)		300 (446)		600 (893)	
SPAN	Deflection	L/Ratio	Deflection	L/Ratio	Deflection	L/Ratio
10 ft 3.05m	0.03 0.76	4327	0.08 2.03	1442	0.17 4.32	721
12 ft 3.66m	0.05 1.27	3005	0.14 3.56	1002	0.29 7.37	501
14 ft 4.27m	0.08 2.03	2207	0.23 5.84	736	0.46 11.68	368
16 ft 4.88m	0.11 2.79	1690	0.34 8.64	563	0.68 17.27	282
18 ft 5.49m	0.16 4.06	1335	0.49 12.44	445	0.97 24.64	223
20 ft 6.10m	0.22 5.59	1082	0.67 17.02	361	1.33 33.78	180
22 ft 6.71m	0.30 7.62	894	0.89 22.61	298		

Notes:

Contact Strongwell for higher load conditions than what is tabulated.

Values are limited to deflection ratios less than $L/150$ or a maximum span of 22 feet (6.71 meters).

Material Property Data:

Full Section Modulus of Elasticity = 3,000,000 psi (minimum) or $20.6 \times 10^3 \text{ N/mm}^2$

Coefficient of Thermal Expansion (LW) = $4.7 \times 10^{-6} \text{ in./in./}^\circ\text{F}$ or $8.5 \times 10^{-6} \text{ mm/mm/}^\circ\text{C}$

Coefficient of Thermal Expansion (CW) = $13.9 \times 10^{-6} \text{ in./in./}^\circ\text{F}$ or $2.4 \times 10^{-5} \text{ mm/mm/}^\circ\text{C}$

EXTREN® Minimum Material Strength Properties for Lengthwise and Crosswise Directions

SAFDECK® Overlapping Decking System



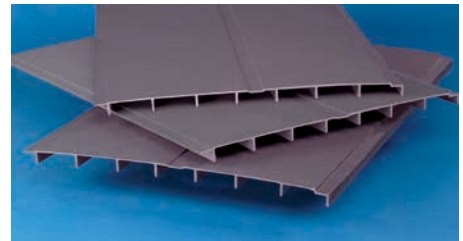
SAFDECK® is used to construct fan decks on cooling towers. The profile height of 1-1/8" is specifically designed to be used as a permanent replacement for rotting plywood on cooling tower fan decks.



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. Non-conductive and nonsparking, SAFDECK® provides safe walkways in applications near electrical lines.

SAFDECK® panels are:

- Corrosion Resistant
- Strong
- Slip Resistant
- Non-Sparking
- Easy to Install
- Lightweight
- Low Electrical and Thermal 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.

Panels are stocked in 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 medium 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

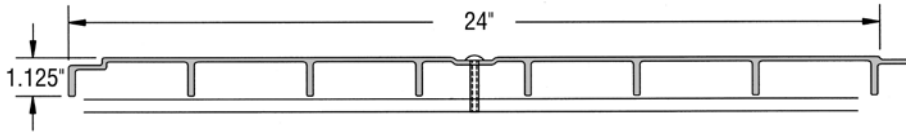
SAFDECK® is designed to be used for flooring and covers.

Typical applications include:

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

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

SAFDECK® Mechanical Properties

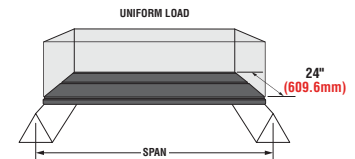


Uniform Load (Deflection in inches (mm))

LOAD in LB / SQUARE FOOT (PSF) or **KG / SQUARE METER (KG/M²)**

$I_{12} = 0.439 \text{ in.}^4$, wt = 4.1 lb / lin. ft. (gritted) or $I_{12} = 1.83 \times 10^5 \text{ mm}^4$, wt = 6.1 kg / lin. m

SPAN	25 (122)	50 (244)	60 (293)	75 (366)	100 (488)	200 (976)	300 (1465)
24" 610mm	0.015 0.38	0.030 0.76	0.036 0.91	0.044 1.12	0.059 1.50	0.119 3.02	0.179 4.55
36" 914mm	0.063 1.60	0.126 3.20	0.151 3.84	0.189 4.80	0.252 6.40		
48" 1219mm	0.215 5.46	0.430 10.92					

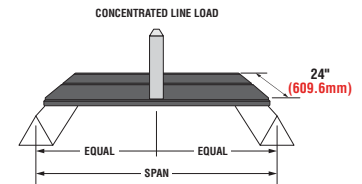


Concentrated Load (Deflection in inches (mm))

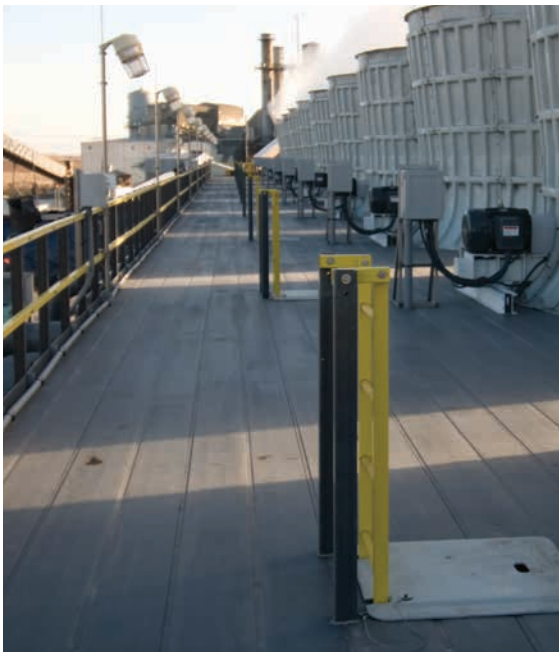
LOAD in LB / FOOT of WIDTH or **KG / METER of WIDTH**

$I_{12} = 0.439 \text{ in.}^4$, wt = 4.1 lb / lin. ft. (gritted) or $I_{12} = 1.83 \times 10^5 \text{ mm}^4$, wt = 6.1 kg / lin. m

SPAN	25 (37)	50 (74)	60 (89)	75 (112)	100 (149)	200 (298)	300 (446)
24" 610mm	0.012 0.30	0.023 0.58	0.029 0.74	0.036 0.91	0.048 1.22	0.096 2.44	0.143 3.63
36" 914mm	0.032 0.81	0.064 1.63	0.081 2.06	0.101 2.57	0.134 3.40	0.269 6.83	
48" 1219mm	0.073 1.85	0.147 3.73	0.206 5.23	0.257 6.53	0.343 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.





STRONGWELL.

ISO 9001 Quality Certified Manufacturing Plants

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