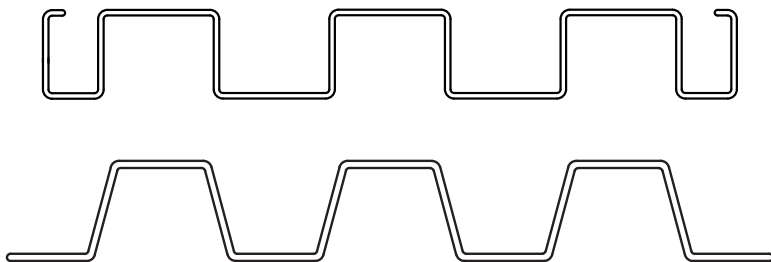
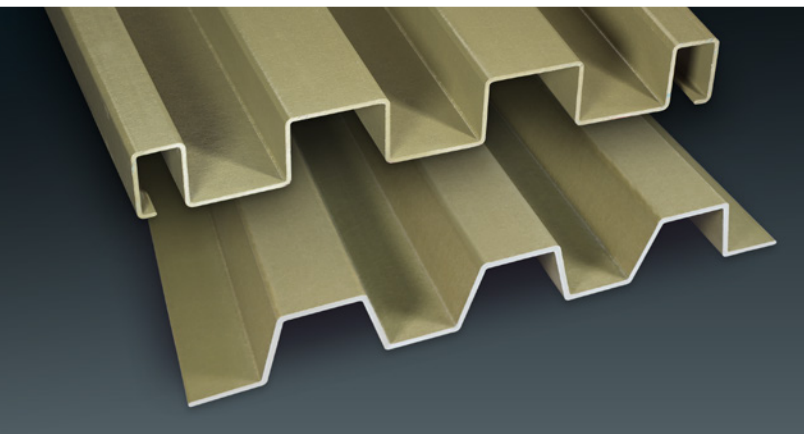




EXCLUSIVELY
 **MADE IN THE USA**

FIBERGLASS BAFFLE PANELS

- » Corrosion Resistant
- » High Strength
- » Lightweight
- » Low Maintenance
- » UV Resistant
- » Low Conductivity
- » Dimensionally Stable



Fiberglass Baffle Panels



Above: Keegan's Bayou Wastewater Treatment Plant in Houston, TX, installed this baffle system in 2002. This system was selected over traditional materials (aluminum, stainless steel, poured-in-place concrete, and concrete columns with redwood baffles) due to extended product life cycles, especially in highly corrosive chlorine contact chambers.



The Lima, OH, Waste Water Treatment Plant required an underground baffle system to allow the water to move more slowly, resulting in better primary sedimentation. This installation was accomplished without the use of cranes or any other lifting equipment due to the lightweight panels and structural members used.

Strongwell's lightweight, high strength fiberglass baffle panels are ideal for underwater flow control applications.

Fiberglass baffle panels are cost effective because they have a much longer life cycle than wood, concrete, steel, and other traditional materials that are subject to rot and corrosion. The lightweight panels are easy to install and can be easily removed for cleaning and access.

All panels offer easy fabrication and installation of new systems or the rehabilitation of existing systems. Baffles can be mounted to existing columns, attached to H-beams, or attached to concrete walls with clip angles (see details on page 4).

Common Applications:

- Municipal Industrial Water and Wastewater Systems
- Contact Chambers
- Retention Basins
- Aeration Chambers

Materials of Construction

Strongwell's standard (straight-walled) baffle wall panels are available in 12" and 24" nominal widths. A sloped-wall baffle panel is available in a 26.8" nominal width. All panels are manufactured using a polyester resin unless otherwise specified. Optional resin systems offered include a fire retardant polyester resin system, a vinyl ester resin system for enhanced corrosion resistance, or a resin system that meets NSF 61 requirements. Panels include a UV inhibitor and a surfacing veil for additional corrosion resistance and UV protection.

HOW TO SPECIFY

FRP baffle panels shall be manufactured by Strongwell using the pultrusion process. Resin shall be (isophthalic polyester) (isophthalic polyester with fire retardant additive) (vinyl ester) (NSF 61 resin certified for potable water applications) with ultraviolet (UV) inhibitor additives. A minimum 7 mil. synthetic surface veil shall be the outermost layer covering the exterior surface.

Baffle walls shall be manufactured (and fabricated) in the U.S.A. in an ISO 9001 quality certified facility. Panels shall meet the following minimum coupon properties:

Tensile Strength: 52,200 psi (ASTM D638)

Flexural Strength: 63,700 psi (ASTM D790)

Flexural Modulus: 1,910,000 psi (ASTM D790)

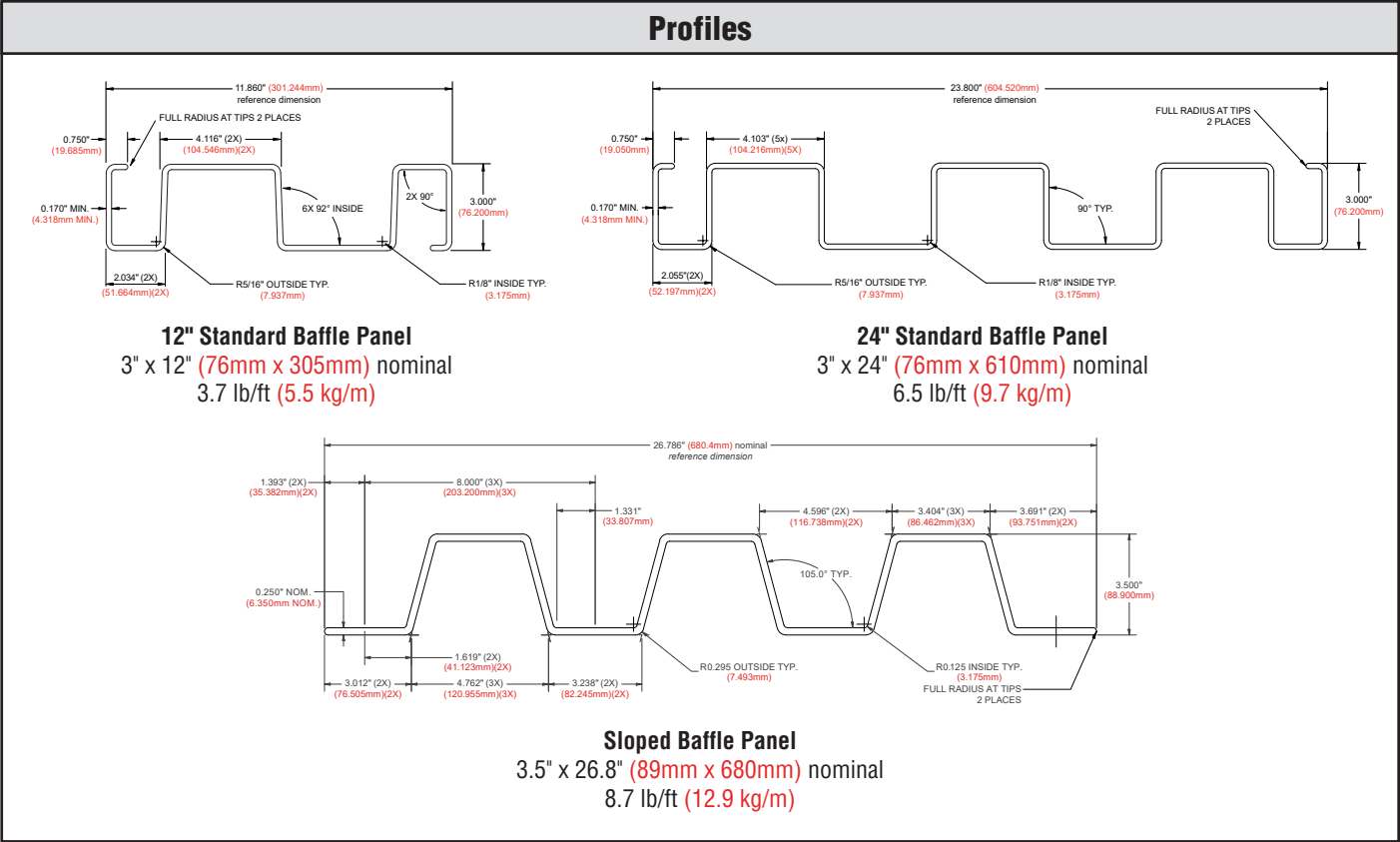
Water Absorption: 0.25% (ASTM D570) (typical value)

IZOD Impact (Notched): 33.3 ft. lbs./in. (ASTM D256)

Compressive Strength: 52,100 psi (ASTM D695)

Baffle panels shall be (12" x 3" x 0.170" nominal) (24" x 3" x 0.170" nominal) (26.8" x 3.5" x 0.250" nominal), containing a minimum of 55% glass fiber reinforcements (by weight). All fasteners, anchors, and structural hardware shall be 316 stainless steel or FRP, with connections as shown on approved shop drawings.

PROPERTIES



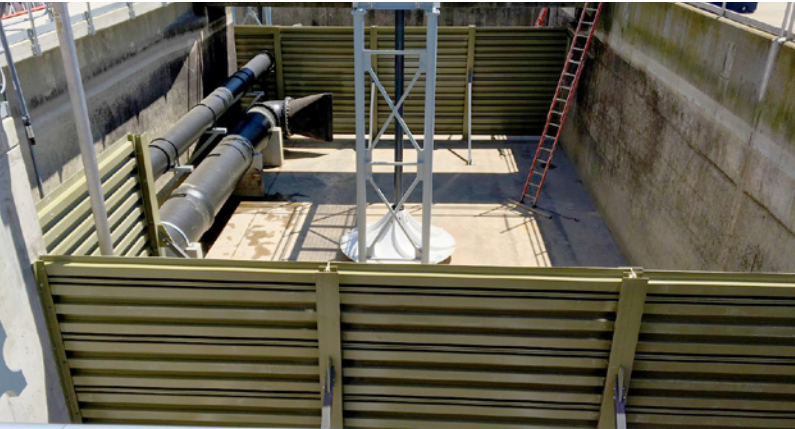
Characteristic Coupon Properties

PROPERTIES	ASTM TEST METHOD	VALUE
Tensile Strength, LW	ASTM D638	52,200 psi (3.60 x 10 ⁵ kPa)
Flexural Strength, LW	ASTM D790	63,700 psi (4.39 x 10 ⁵ kPa)
Flexural Modulus, LW	ASTM D790	1.91 x 10 ⁶ psi (1.32 x 10 ⁷ kPa)
Water Absorption	ASTM D570	0.25% (typical value)
IZOD Impact (Notched)	ASTM D256	33.3 ft. lbs./in. (1.77 J/mm)
Compressive Strength	ASTM D695	52,100 psi (3.59 x 10 ⁵ kPa)

Note: Characteristic values are calculated in accordance to ASTM D7290 Standard Practice for Evaluating Material Property Characteristic Values for Polymeric Composites for Civil Engineering Structural Applications

Baffle Design Properties

PROPERTY	VALUE
I _{x-x}	Standard 11.388 in ⁴ (474 cm ⁴)
	Sloped 18.36 in ⁴ (764 cm ⁴)
Moment Capacity	Standard 65,700 in-lb/ft (24,354 N-m/m)
	Sloped 283,200 in-lb (32,000 N-m)
Modulus of Elasticity	Standard 2.95 x 10 ⁶ psi (20.31 x 10 ⁶ kPa)
	Sloped 4.0 x 10 ⁶ psi (27.64 x 10 ⁶ kPa)
Stiffness (EI)	Standard 16.78 x 10 ⁶ lb-in ² /ft (15.80 x 10 ¹⁰ N-mm ² /m)
	Sloped 73.61 x 10 ⁶ lb-in ² (21.12 x 10 ¹⁰ N-mm ²)



This wastewater treatment facility in Ohio installed Strongwell baffle panels along with EXTREN® wide flange beams, square tubes, and angles, which enabled each chamber to generate higher biomass solids concentration resulting in better bio-treatment.

Load Span Table (Standard Baffle Panel)

Water Differential	1" (25.4mm)		2" (50.8mm)		3" (76.2mm)		4" (101.6mm)		5" (127.0mm)		6" (152.4mm)		8" (203.2mm)		10" (254mm)		12" (304.8mm)	
Uniform Load	5.2 psf (25.4 kg/m ²)		10.4 psf (50.8 kg/m ²)		15.6 psf (76.1 kg/m ²)		20.8 psf (101.5 kg/m ²)		26.0 psf (126.9 kg/m ²)		31.2 psf (152.3 kg/m ²)		41.6 psf (203.0 kg/m ²)		52.0 psf (253.8 kg/m ²)		62.4 psf (304.5 kg/m ²)	
SPAN	L/D	FOS	L/D	FOS	L/D	FOS	L/D	FOS	L/D	FOS	L/D	FOS	L/D	FOS	L/D	FOS	L/D	FOS
8' (2.44m)	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	336	>6	280	>6
9' (2.74m)	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	300	>6	240	>6	200	>6
10' (3.05m)	>360	>6	>360	>6	>360	>6	>360	>6	355	>6	296	>6	222	>6	177	>6	148	>6
11' (3.35m)	>360	>6	>360	>6	>360	>6	338	>6	270	>6	225	>6	169	>6	135	>6	113	5.8
12' (3.66m)	>360	>6	>360	>6	351	>6	263	>6	211	>6	175	>6	132	>6	105	5.8		
13' (3.96m)	>360	>6	>360	>6	279	>6	209	>6	167	>6	139	>6	105	>6				
14' (4.27m)	>360	>6	338	>6	225	>6	169	>6	135	>6	113	>6						
15' (4.57m)	>360	>6	277	>6	185	>6	139	>6	111	>6	92	>6						
16' (4.88m)	>360	>6	230	>6	153	>6	115	>6	92	>6								
17' (5.18m)	>360	>6	193	>6	129	>6	96	>6										
18' (5.49m)	326	>6	163	>6	109	>6												
19' (5.79m)	279	>6	139	>6	93	>6												
20' (6.10m)	239	>6	120	>6														
21' (6.40m)	207	>6	104	>6														

Load Span Table (Sloped Baffle Panel)

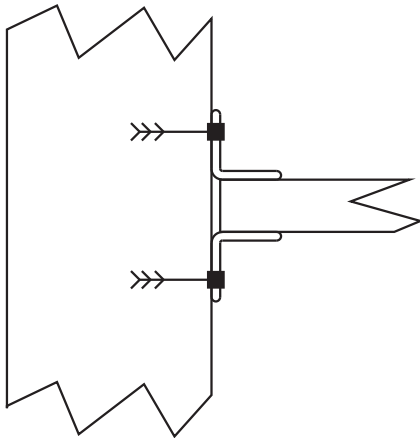
Water Differential	1" (25.4mm)		2" (50.8mm)		3" (76.2mm)		4" (101.6mm)		5" (127.0mm)		6" (152.4mm)		8" (203.2mm)		10" (254mm)		12" (304.8mm)	
Uniform Load	5.2 psf (25.4 kg/m ²)		10.4 psf (50.8 kg/m ²)		15.6 psf (76.1 kg/m ²)		20.8 psf (101.5 kg/m ²)		26.0 psf (126.9 kg/m ²)		31.2 psf (152.3 kg/m ²)		41.6 psf (203.0 kg/m ²)		52.0 psf (253.8 kg/m ²)		62.4 psf (304.5 kg/m ²)	
SPAN	L/D	FOS	L/D	FOS	L/D	FOS	L/D	FOS	L/D	FOS	L/D	FOS	L/D	FOS	L/D	FOS	L/D	FOS
8' (2.44m)	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6
9' (2.74m)	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6
10' (3.05m)	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	338	>6	281	>6
11' (3.35m)	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	317	>6	254	>6	211	>6
12' (3.66m)	>360	>6	>360	>6	>360	>6	>360	>6	>360	>6	326	>6	244	>6	195	>6	163	>6
13' (3.96m)	>360	>6	>360	>6	>360	>6	>360	>6	307	>6	256	>6	192	>6	153	>6	128	>6
14' (4.27m)	>360	>6	>360	>6	>360	>6	308	>6	246	>6	205	>6	154	>6	123	>6	102	>6
15' (4.57m)	>360	>6	>360	>6	334	>6	250	>6	200	>6	167	>6	125	>6	100	>6		
16' (4.88m)	>360	>6	>360	>6	275	>6	206	>6	165	>6	137	>6	103	>6				
17' (5.18m)	>360	>6	344	>6	229	>6	172	>6	137	>6	114	>6						
18' (5.49m)	>360	>6	289	>6	193	>6	144	>6	115	>6	96	>6						
19' (5.79m)	>360	>6	246	>6	164	>6	123	>6	98	>6								
20' (6.10m)	>360	>6	211	>6	140	>6	105	>6										
21' (6.40m)	>360	>6	182	>6	121	>6	91	>6										
22' (6.71m)	317	>6	158	>6	105	>6												
23' (7.01m)	277	>6	138	>6	92	>6												
24' (7.32m)	244	>6	122	>6														

INSTALLATION DETAILS

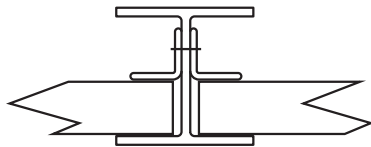
Typical Installation Methods

Baffles can be mounted to existing columns, attached to H-beams, or attached to concrete walls with clip angles. Bolted connections are determined during the baffle wall system engineering design.

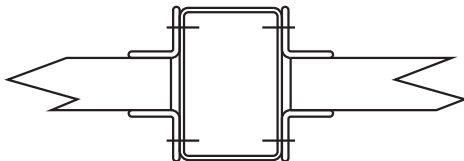
Concrete Connection



Beam Connection



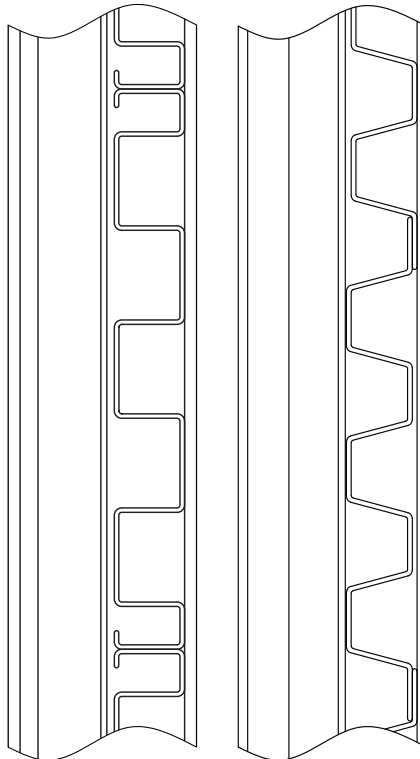
Tube Connection



Elevations

STANDARD

SLOPED



ALTERNATIVE BAFFLE

Using COMPOSOLITE® Structural Building Panels as Baffles

Alternately, and in an effort to reduce the number of baffle wall support columns, Strongwell COMPOSOLITE® panels can be substituted for Strongwell Baffle Panels since their hollow-panel geometry allows for longer spans. Contact Strongwell for more information.





ISO 9001 Quality Certified Manufacturing Plants

BRISTOL LOCATION

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