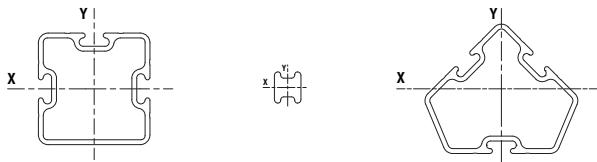
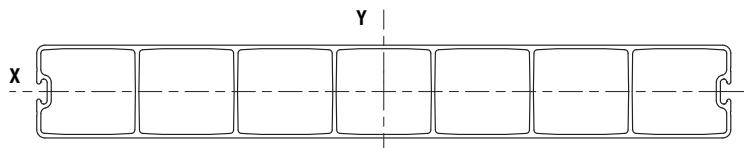




EXCLUSIVELY  
 MADE IN THE USA

# COMPOSOLITE®

FIBERGLASS BUILDING PANEL SYSTEMS



# COMPOSOLITE® Building Panel System



Odor control covers at the Trinity River Waste Water Treatment Plant in Dallas, Texas, utilize COMPOSOLITE® panels because of the product's extensive benefits. The panels provided strong, lightweight, corrosion resistant covers for the large wastewater treatment facility.



An oil containment system using COMPOSOLITE® surrounds a transformer at this electric utility substation. Compared to concrete or earthen containment systems, the COMPOSOLITE® system saves time and money during installation.



## What is COMPOSOLITE®?

COMPOSOLITE® is a patented advanced composite building panel system suitable for major load bearing structural applications. The modular construction system consists of a small number of interlocking fiber reinforced polymer (FRP) structural components produced by the pultrusion process. The main building panels are 3.15" (80mm) thick and either 23.79" or 13.70" (604.3mm or 348.0mm) wide and feature a cellular construction. Through the use of toggles and/or hangers, panels can be connected to one another, to 3-way connectors, or to 45° connectors.

This uniquely designed system of interlocking components makes it possible to design fiberglass structures at significantly lower costs for a broad range of construction applications. COMPOSOLITE® structures can be designed to be shipped flat to the job site.

Typical applications include:

- Buildings
- Bridge Enclosure Systems
- Pedestrian Bridge Decks
- Tank Covers
- Platforms & Walkways
- Cellular Enclosures
- Secondary Containment
- Baffles

## System Design

COMPOSOLITE® is a system of five interlocking components manufactured of pultruded fiberglass reinforced polymer. The system combines manufacturing simplicity with an almost unlimited number of configurations.

The COMPOSOLITE® panel features integral grooves into which a toggle is inserted during assembly. 3-way and 45° connectors allow the system components to turn corners and facilitate the joining of walls or sides. For added flexibility, the system also includes a hanger and an end cap.

Joints between panels and connectors are bonded during final assembly. Adhesive is applied along the length of the panel and connector. The toggle, to which adhesive is not applied, is then inserted as an assembly aid to mechanically secure the components and create even pressure along the length of the joint until the adhesive between the structural components cures.

## Materials of Construction

Because the system is constructed of FRP, COMPOSOLITE® is particularly well-suited for outdoor use and/or corrosive environments.

Standard COMPOSOLITE® features a polyester fire retardant resin system in a slate gray color. The standard fire retardant resin meets the flame spread requirements of Class 1 rating of 25 or less per ASTM E-84 and the self-extinguishing requirements of ASTM D-635. The resin mixture is UV inhibited and the composite includes a surface veil on all exposed surfaces for enhanced corrosion and UV protection.

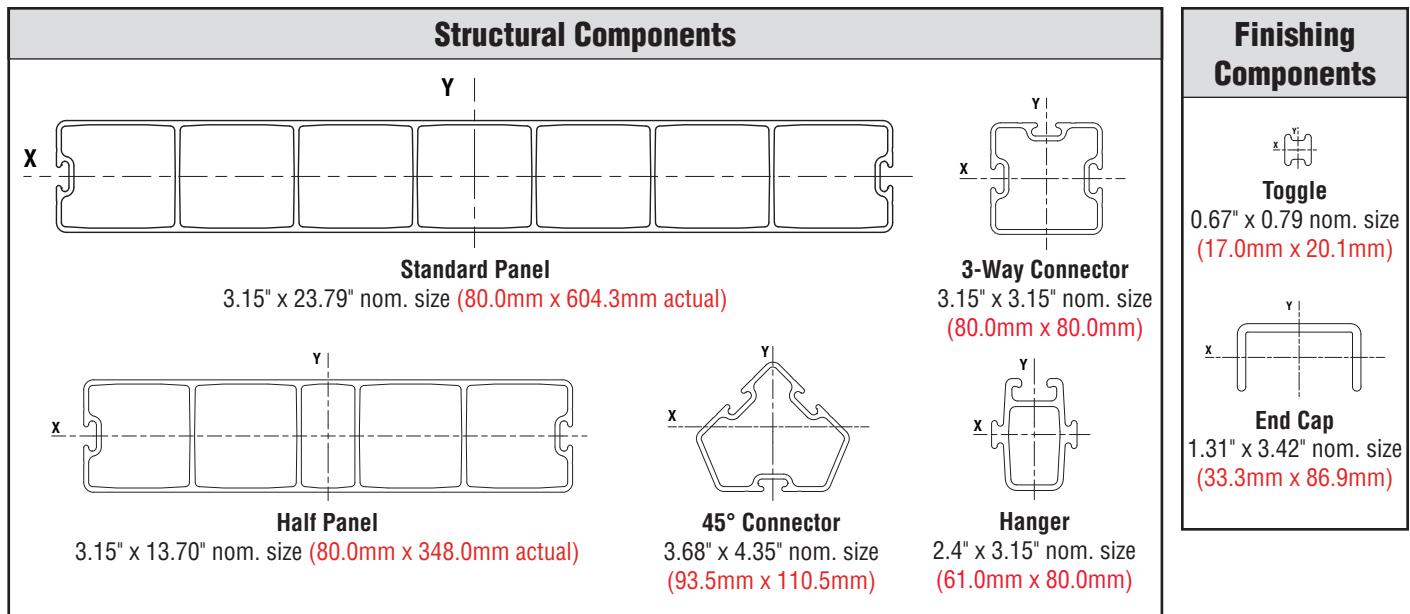
Other colors and resins, including polyester, vinyl ester, and manufactured to meet NSF-61 certification for hot and cold, are available upon request.

# System Components

## Structural Component Mechanical Properties (minimum)

PROPERTIES	ASTM TEST METHOD	VALUE ksi (N/mm <sup>2</sup> )
Flexural Strength, LW	D790	24.5 (168.9)
Flexural Strength, CW	D790	8.2 (56.5)
Flexural Modulus, LW	D790	885.0 (6101.9)
Flexural Modulus, CW	D790	646.0 (4454.0)
Tensile Strength, LW	D638	31.1 (214.4)
Tensile Modulus, LW	D638	2486.0 (17140.4)
Short Beam Shear, LW	D2344	3.19 (22.0)

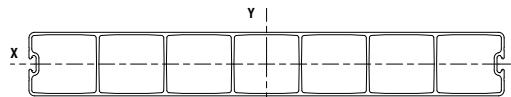
*Note: All values are minimum ultimate properties from coupon tests.*



## Section Properties

SHAPE	WEIGHT LB/LIN. FT (KG/M)	I <sub>x</sub> IN <sup>4</sup> (MM <sup>4</sup> )	S <sub>x</sub> IN <sup>3</sup> (MM <sup>3</sup> )	r <sub>x</sub> IN (MM)	I <sub>y</sub> IN <sup>4</sup> (MM <sup>4</sup> )	S <sub>y</sub> IN <sup>3</sup> (MM <sup>3</sup> )	r <sub>y</sub> IN (MM)	A IN <sup>2</sup> (MM <sup>2</sup> )	Aw <sub>x</sub> IN <sup>2</sup> (MM <sup>2</sup> )	Aw <sub>y</sub> IN <sup>2</sup> (MM <sup>2</sup> )
Panel	7.22 (11.19)	16.39 (6.82 x 10 <sup>6</sup> )	10.41 (1.71 x 10 <sup>5</sup> )	1.31 (33.16)	510.28 (2.12 x 10 <sup>6</sup> )	21.45 (0.167 x 10 <sup>6</sup> )	7.28 (185.00)	9.62 (6206)	3.13 (2020)	6.49 (4186)
Half Panel	5.10 (7.50)	9.93 (4.13 x 10 <sup>6</sup> )	6.31 (1.03 x 10 <sup>5</sup> )	1.26 (31.96)	114.08 (4.75 x 10 <sup>7</sup> )	16.66 (2.73 x 10 <sup>5</sup> )	4.27 (108.33)	6.27 (4046)	2.49 (1604)	3.78 (2442)
3-Way Connector	1.65 (2.53)	2.58 (1.08 x 10 <sup>6</sup> )	1.57 (2.57 x 10 <sup>4</sup> )	1.13 (28.70)	2.71 (1.13 x 10 <sup>6</sup> )	1.72 (2.82 x 10 <sup>4</sup> )	1.16 (29.41)	2.02 (1305)	- (-)	- (-)
45° Connector	1.75 (2.60)	2.78 (1.16 x 10 <sup>6</sup> )	1.30 (2.14 x 10 <sup>4</sup> )	1.16 (29.41)	3.26 (1.36 x 10 <sup>6</sup> )	1.50 (2.45 x 10 <sup>4</sup> )	1.25 (31.83)	2.07 (1337)	- (-)	- (-)
Hanger	1.55 (2.31)	1.67 (6.95 x 10 <sup>5</sup> )	1.01 (1.66 x 10 <sup>4</sup> )	0.92 (23.48)	1.13 (4.69 x 10 <sup>5</sup> )	0.94 (1.54 x 10 <sup>4</sup> )	0.76 (19.30)	1.95 (1260)	- (-)	- (-)
Toggle	0.31 (0.49)	0.01 (6.16 x 10 <sup>3</sup> )	0.04 (6.16 x 10 <sup>2</sup> )	0.19 (4.82)	0.02 (7.45 x 10 <sup>3</sup> )	0.05 (8.75 x 10 <sup>2</sup> )	0.21 (5.30)	0.41 (265)	- (-)	- (-)
End Cap	0.58 (0.89)	0.11 (4.37 x 10 <sup>4</sup> )	108.00 (1.77 x 10 <sup>6</sup> )	0.38 (9.75)	1.19 (4.94 x 10 <sup>5</sup> )	0.69 (1.14 x 10 <sup>4</sup> )	1.29 (32.78)	0.71 (459)	- (-)	- (-)

# Standard Panel Load Tables (Imperial)



**Standard Panel**

3.15" x 23.79" nom. size  
(80.0mm x 604.3mm actual)

## Uniform Load (Deflection in inches)

LOAD in PSF

SPAN	40	50	60	80	100	125	150	200	250	300	500	$E_a I$ $10^6 \text{ lbf-in}^2$	L/100 Limits
<b>4'</b>	0.01	0.01	0.02	0.02	0.03	0.04	0.04	0.06	0.07	0.09	0.15	38.5	0.48
<b>5'</b>	0.03	0.03	0.04	0.05	0.07	0.08	0.10	0.14	0.17	0.20	0.34	41.4	0.60
<b>6'</b>	0.05	0.07	0.08	0.11	0.14	0.17	0.20	0.27	0.34	0.41	0.68	42.7	0.72
<b>7'</b>	0.09	0.11	0.13	0.18	0.22	0.28	0.34	0.45	0.56	0.67		48.2	0.84
<b>8'</b>	0.15	0.19	0.23	0.30	0.38	0.47	0.57	0.76	0.95			48.6	0.96
<b>9'</b>	0.24	0.29	0.35	0.47	0.59	0.74	0.88					50.2	1.08
<b>10'</b>	0.35	0.43	0.52	0.69	0.87	1.09						51.8	1.20
<b>11'</b>	0.50	0.63	0.75	1.01	1.26							52.4	1.32
<b>12'</b>	0.70	0.87	1.05	1.40								53.5	1.44
<b>13'</b>	0.95	1.18	1.42									54.4	1.56
<b>14'</b>	1.26	1.58										54.7	1.68
<b>15'</b>	1.65											55.1	1.80

NOTE: The stiffness ( $E_a I$ ) values are based on full-scale deflection testing.

NOTE: Calculated deflection values end when deflection exceeds L/100.

## Concentrated Load (Deflection in inches)

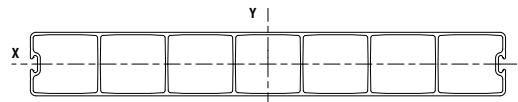
LOAD in LB per FOOT of WIDTH

SPAN	100	150	200	300	400	500	700	1000	$E_a I$ $10^6 \text{ lbf-in}^2$	L/100 Limits
<b>4'</b>	0.01	0.02	0.02	0.04	0.05	0.06	0.08	0.12	38.5	0.48
<b>5'</b>	0.02	0.03	0.04	0.07	0.09	0.11	0.15	0.22	41.4	0.60
<b>6'</b>	0.04	0.05	0.07	0.11	0.15	0.18	0.25	0.36	42.7	0.72
<b>7'</b>	0.05	0.08	0.10	0.15	0.20	0.26	0.36	0.51	48.2	0.84
<b>8'</b>	0.08	0.11	0.15	0.23	0.30	0.38	0.53	0.76	48.6	0.96
<b>9'</b>	0.10	0.16	0.21	0.31	0.42	0.52	0.73	1.05	50.2	1.08
<b>10'</b>	0.14	0.21	0.28	0.42	0.56	0.69	0.97		51.8	1.20
<b>11'</b>	0.18	0.27	0.37	0.55	0.73	0.91	1.28		52.4	1.32
<b>12'</b>	0.23	0.35	0.47	0.70	0.93	1.16			53.5	1.44
<b>13'</b>	0.29	0.44	0.58	0.87	1.16	1.45			54.4	1.56
<b>14'</b>	0.36	0.54	0.72	1.08	1.44				54.7	1.68
<b>15'</b>	0.44	0.66	0.88	1.32	1.76				55.1	1.80
<b>16'</b>	0.53	0.80	1.06	1.60					55.4	1.92
<b>17'</b>	0.64	0.96	1.27	1.91					55.5	2.04
<b>18'</b>	0.76	1.13	1.51						55.6	2.16
<b>19'</b>	0.88	1.32	1.76						56.0	2.28
<b>20'</b>	1.02	1.53	2.04						56.4	2.40

NOTE: The stiffness ( $E_a I$ ) values are based on full-scale deflection testing.

NOTE: Calculated deflection values end when deflection exceeds L/100, or 20-foot maximum span.

# Standard Panel Load Tables (Metric)



**Standard Panel**

3.15" x 23.79" nom. size

(80.0mm x 604.3mm actual)

## Uniform Load (Deflection in mm)

LOAD in kN/m<sup>2</sup>

SPAN (m)	2.0	2.5	3.0	3.5	4.0	5.0	6.0	8.0	10.0	12.0	15.0	20.0	E <sub>a</sub> I (10 <sup>9</sup> N·cm <sup>2</sup> )	L/100 LIMITS
<b>1.0</b>	0.14	0.18	0.21	0.25	0.29	0.36	0.43	0.57	0.72	0.86	1.07	1.43	1.11	10
<b>1.5</b>	0.66	0.82	0.99	1.15	1.32	1.65	1.98	2.63	3.29	3.95	4.94	6.59	1.22	15
<b>2.0</b>	1.92	2.41	2.89	3.37	3.85	4.81	5.77	7.70	9.62	11.55	14.43	19.24	1.32	20
<b>2.5</b>	4.43	5.54	6.64	7.75	8.86	11.07	13.29	17.72	22.15				1.40	25
<b>3.0</b>	8.63	10.79	12.95	15.10	17.26	21.58	25.89						1.49	30
<b>3.5</b>	15.67	19.59	23.51	27.43	31.35								1.52	35
<b>4.0</b>	26.05	32.56	39.08										1.56	40
<b>4.5</b>	41.20												1.58	45

NOTE: The stiffness (E<sub>a</sub> I) values are based on full-scale deflection testing.

NOTE: Calculated deflection values end when deflection exceeds L/100, or 4.5-meter maximum span.

## Concentrated Load (Deflection in mm)

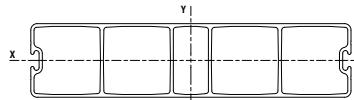
LOAD in kN per METER of WIDTH

SPAN (m)	2.0	2.5	3.0	3.5	4.0	5.0	6.0	8.0	10.0	12.0	15.0	20.0	E <sub>a</sub> I (10 <sup>9</sup> N·cm <sup>2</sup> )	L/100 LIMITS
<b>1.0</b>	0.23	0.29	0.34	0.40	0.46	0.57	0.69	0.92	1.14	1.37	1.72	2.29	1.11	10
<b>1.5</b>	0.70	0.88	1.05	1.23	1.41	1.76	2.11	2.81	3.51	4.22	5.27	7.03	1.22	15
<b>2.0</b>	1.54	1.92	2.31	2.69	3.08	3.85	4.62	6.16	7.70	9.24	11.55	15.39	1.32	20
<b>2.5</b>	2.83	3.54	4.25	4.96	5.67	7.09	8.50	11.34	14.17	17.01	21.26		1.40	25
<b>3.0</b>	4.60	5.75	6.90	8.05	9.21	11.51	13.81	18.41	23.01	27.62			1.49	30
<b>3.5</b>	7.16	8.96	10.75	12.54	14.33	17.91	21.49	28.66					1.52	35
<b>4.0</b>	10.42	13.03	15.63	18.24	20.84	26.05	31.26						1.56	40
<b>4.5</b>	14.65	18.31	21.97	25.64	29.30	36.62	43.95						1.58	45
<b>5.0</b>	19.97	24.96	29.95	34.94	39.94	49.92							1.59	50
<b>5.5</b>	26.41	33.02	39.62	46.22	52.82								1.60	55
<b>6.0</b>	33.87	42.33	50.80	59.27									1.62	60

NOTE: The stiffness (E<sub>a</sub> I) values are based on full-scale deflection testing.

NOTE: Calculated deflection values end when deflection exceeds L/100, or 6.0-meter maximum span.

# Half Panel Load Tables (Imperial)



**Half Panel**

3.15" x 13.70" nom. size  
(80.0mm x 348.0mm actual)

## Uniform Load (Deflection in inches)

LOAD in PSF

SPAN	40	50	60	80	100	125	150	200	250	300	500	$E_a I$ $10^6 \text{ lbf-in}^2$	L/100 Limits
<b>4'</b>	0.02	0.02	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.11	0.19	17.5	0.48
<b>5'</b>	0.04	0.05	0.06	0.07	0.09	0.11	0.14	0.18	0.23	0.28	0.46	17.5	0.60
<b>6'</b>	0.08	0.10	0.11	0.15	0.19	0.24	0.29	0.38	0.48	0.57		17.5	0.72
<b>7'</b>	0.14	0.18	0.21	0.28	0.35	0.44	0.53	0.71				17.5	0.84
<b>8'</b>	0.14	0.18	0.21	0.28	0.35	0.44	0.53	0.70	0.88			30.0	0.96
<b>9'</b>	0.22	0.28	0.34	0.45	0.56	0.70	0.84					30.0	1.08
<b>10'</b>	0.34	0.43	0.51	0.69	0.86	1.07						30.0	1.20
<b>11'</b>	0.50	0.63	0.75	1.00	1.25							30.0	1.32
<b>12'</b>	0.71	0.89	1.07	1.42								30.0	1.44
<b>13'</b>	0.98	1.22	1.47									30.0	1.56

NOTE: The stiffness ( $E_a I$ ) values are based on full-scale deflection testing.

NOTE: Calculated deflection values end when deflection exceeds L/100.

## Concentrated Load (Deflection in inches)

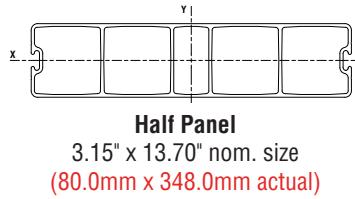
LOAD in LB per WIDTH of PANEL

SPAN	100	150	200	300	400	500	700	1000	1500	2000	$E_a I$ $10^6 \text{ lbf-in}^2$	L/100 Limits
<b>4'</b>	0.01	0.02	0.03	0.04	0.05	0.07	0.09	0.13	0.20	0.26	17.5	0.48
<b>5'</b>	0.03	0.04	0.05	0.08	0.10	0.13	0.18	0.26	0.39	0.51	17.5	0.60
<b>6'</b>	0.04	0.07	0.09	0.13	0.18	0.22	0.31	0.44	0.67		17.5	0.72
<b>7'</b>	0.07	0.11	0.14	0.21	0.28	0.35	0.49	0.71			17.5	0.84
<b>8'</b>	0.06	0.09	0.12	0.18	0.25	0.31	0.43	0.61	0.92		30.0	0.96
<b>9'</b>	0.09	0.13	0.17	0.26	0.35	0.44	0.61	0.87			30.0	1.08
<b>10'</b>	0.12	0.18	0.24	0.36	0.48	0.60	0.84	1.20			30.0	1.20
<b>11'</b>	0.16	0.24	0.32	0.48	0.64	0.80	1.12				30.0	1.32
<b>12'</b>	0.21	0.31	0.41	0.62	0.83	1.04					30.0	1.44
<b>13'</b>	0.26	0.40	0.53	0.79	1.05	1.32					30.0	1.56
<b>14'</b>	0.33	0.49	0.66	0.99	1.32	1.65					30.0	1.68
<b>15'</b>	0.41	0.61	0.81	1.22							30.0	1.80
<b>16'</b>	0.49	0.74	0.98	1.47							30.0	1.92
<b>17'</b>	0.59	0.88	1.18	1.77							30.0	2.04
<b>18'</b>	0.70	1.05	1.40	2.10							30.0	2.16
<b>19'</b>	0.82	1.23	1.65								30.0	2.28
<b>20'</b>	1.92	2.88									30.0	2.40

NOTE: The stiffness ( $E_a I$ ) values are based on full-scale deflection testing.

NOTE: Calculated deflection values end when deflection exceeds L/100, or 20-foot maximum span.

# Half Panel Load Tables (Metric)



## Uniform Load (Deflection in mm)

LOAD in kN/m<sup>2</sup>

SPAN (m)	2.0	2.5	3.0	3.5	4.0	5.0	6.0	8.0	10.0	12.0	15.0	20.0	E <sub>a</sub> I (10 <sup>9</sup> N-cm <sup>2</sup> )	L/100 LIMITS
<b>1.0</b>	0.18	0.23	0.27	0.32	0.36	0.45	0.54	0.72	0.90	1.08	1.35	1.80	50.2	10.00
<b>1.5</b>	0.91	1.14	1.37	1.60	1.83	2.28	2.74	3.65	4.57	5.48	6.85	9.14	50.2	15.00
<b>2.0</b>	2.89	3.61	4.33	5.05	5.77	7.22	8.66	11.55	14.44	17.32			50.2	20.00
<b>2.5</b>	7.05	8.81	10.57	12.34	14.10	17.62	21.15						50.2	25.00
<b>3.0</b>	8.53	10.66	12.79	14.92	17.05	21.32	25.58						86.1	30.00
<b>3.5</b>	15.80	19.74	23.69	27.64	31.59								86.1	35.00
<b>4.0</b>	26.95	33.68	40.42										86.1	40.00
<b>4.5</b>	43.16												86.1	45.00

NOTE: The stiffness (E<sub>a</sub> I) values are based on full-scale deflection testing.

NOTE: Calculated deflection values end when deflection exceeds L/100, or 4.5-meter maximum span.

## Concentrated Load (Deflection in mm)

LOAD in kN per WIDTH of PANEL

SPAN (m)	2.0	2.5	3.0	3.5	4.0	5.0	6.0	8.0	10.0	12.0	15.0	20.0	E <sub>a</sub> I (10 <sup>9</sup> N-cm <sup>2</sup> )	L/100 LIMITS
<b>1.0</b>	0.83	1.04	1.24	1.45	1.66	2.07	2.49	3.32	4.15	4.98	6.22	8.30	50.2	10.00
<b>1.5</b>	2.80	3.50	4.20	4.90	5.60	7.00	8.40	11.20	14.00				50.2	15.00
<b>2.0</b>	6.64	8.30	9.96	11.62	13.27	16.59	19.91						50.2	20.00
<b>2.5</b>	12.96	16.20	19.45	22.69	25.93								50.2	25.00
<b>3.0</b>	13.07	16.33	19.60	22.87	26.13								86.1	30.00
<b>3.5</b>	20.75	25.94	31.12										86.1	35.00
<b>4.0</b>	30.97	38.72											86.1	40.00
<b>4.5</b>	44.10												86.1	45.00

NOTE: The stiffness (E<sub>a</sub> I) values are based on full-scale deflection testing.

NOTE: Calculated deflection values end when deflection exceeds L/100, or 4.5-meter maximum span.

# Applications and Solutions



COMPOSOLITE® panels withstand the harsh environment of cooling towers with ease. The panel system not only provides excellent structural properties, but the rot and corrosion resistant panels will last for years to come.



COMPOSOLITE® panels and SAFRAIL™ handrail compose this walkway installed along a commuter rail track by the Maryland Transit Administration. The nonconductive and corrosion resistant FRP walkway provides a safe walking surface and has lower installation and maintenance costs than a steel walkway.



Versatile COMPOSOLITE® panels serve as a baffle system in this chlorine contact chamber.



COMPOSOLITE® panels are ideal for use as odor control covers. The strong yet lightweight covers are easy to handle and can withstand the harsh environment for years. The panels also require little to no maintenance.



COMPOSOLITE® building panels are incorporated into reusable scaffolding in this bridge reconstruction project. The panels were pultruded in a safety yellow color and served as working platforms when construction workers replaced the bridge's bearings. Upon completion, the panels can be stored for use on future projects.





COMPOSOLITE® was outfitted throughout this mobile pipe tower due to its weight savings, particularly important in the lowering of this next generation subsea rock installation vessel's center of gravity.



A floating office in the San Francisco Bay was constructed using the COMPOSOLITE® building panel system. The fiberglass structure was designed using COMPOSOLITE® FRP panels because they are less expensive than steel or concrete and were also easy to assemble.



A visitor center in Bristol, UK, is constructed of COMPOSOLITE® panels, 3-way connectors, and toggles with no supporting frame. Cells of panels and 3-way connectors were filled with foam for thermal insulation.



COMPOSOLITE® panels are fabricated into attractive, strong, lightweight and rot resistant gates that provide access to trash storage bins. The aesthetically pleasing and low maintenance material is a better alternative to steel or wood gates.



A removable dock system featuring lightweight, corrosion resistant COMPOSOLITE® panels and EXTREN® structural shapes is located on the Baufort Sea. The sea freezes in winter, making easy removal of dock sections a necessity for the customer. Each section is 12' wide by 30' (3.66m x 9.14m) long.



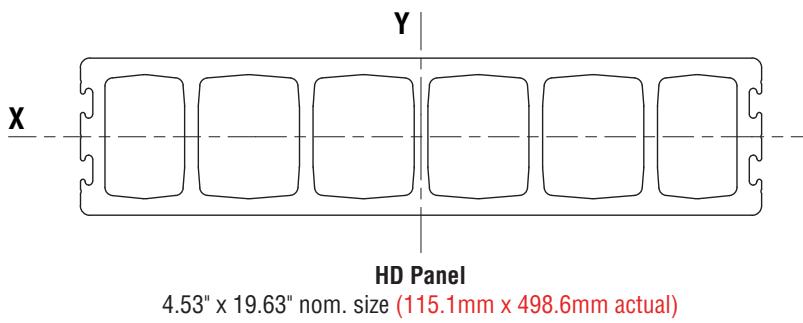
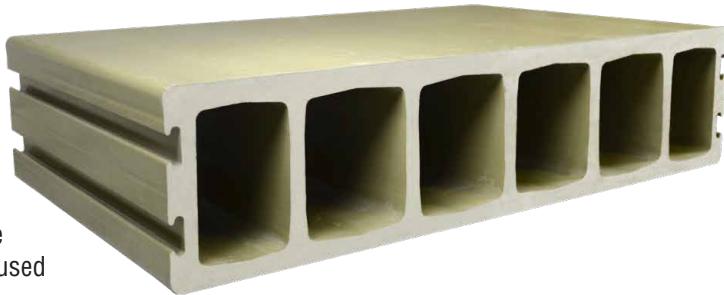
A car wash housing is constructed using COMPOSOLITE® panels, 3-way connectors, and toggles. No internal structure is required. Dimensions are 36' x 16' x 14'-3/4" (11m x 4.88m x 4.29m) high. Low maintenance, ease of construction and an attractive appearance greatly benefited the customer.

# COMPOSOLITE® HD Heavy Duty Building Panel System

## What is COMPOSOLITE® HD?

COMPOSOLITE® HD is a heavy duty advanced composite building panel system suitable for major load bearing structural applications. The modular construction system consists of a small number of interlocking fiber reinforced polymer (FRP) structural components produced by the pultrusion process. The main panel is 4.5" thick x 19.625" wide (115mm x 498.5mm) nominal size and features a cellular construction. Panels can be connected to one another through the use of the same toggles used in the standard COMPOSOLITE® system.

Like standard COMPOSOLITE® panels, COMPOSOLITE® HD makes it possible to design fiberglass structures at significantly lower costs for a broad range of construction applications. COMPOSOLITE® HD structures can be designed to be shipped flat to the job site.



An all-composite bascule bridge in Bridgetown, Barbados, was built using Strongwell's COMPOSOLITE® building panel system, COMPOSOLITE® HD heavy-duty building panels, and EXTREN® structural shapes (see assembly in-process photo below). The drawbridge is mainly used by pedestrians in this tourist destination.

## Section Properties

WEIGHT	26.17 lb/lin. ft	38.95 kg/m
$I_x$	95.80 in <sup>4</sup>	$3.99 \times 10^7$ mm <sup>4</sup>
$S_x$	42.32 in <sup>3</sup>	$6.93 \times 10^5$ mm <sup>3</sup>
$r_x$	1.72 in	43.79 mm
$I_y$	1172.49 in <sup>4</sup>	$4.88 \times 10^8$ mm <sup>4</sup>
$S_y$	119.48 in <sup>3</sup>	$1.96 \times 10^6$ mm <sup>3</sup>
$r_y$	6.03 in	153.18 mm
A	32.24 in <sup>2</sup>	20798 mm <sup>2</sup>
$Aw_x$	9.49 in <sup>2</sup>	6124 mm <sup>2</sup>
$Aw_y$	22.74 in <sup>2</sup>	14674 mm <sup>2</sup>



ISO 9001 Quality Certified Manufacturing Plants

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