## FIBERGLASS COMPOSITE STOP LOGS





Glass Steel, Inc. PO Box 7155 The Woodlands, TX 77387-7155 18468 FM 1314 Conroe, TX 77302 (281) 572-2211 office (281) 572-2212 fax www.GlassSteelinc.com

### GLASS'STEEL, INC.

## FIBERGLASS STOP LOGS

Glass-Steel, Inc. produces composite stop logs for temporary storage of water in flow channels in Water and Wastewater Treatment Plants. The sizes of the stop logs vary in height to what ever is the customer preference and the thickness of the stop log varies accordingly to the span and differential head pressure to be designed for.

#### **MATERIALS:**

For most water and wastewater applications Glass-Steel, Inc. will use an Isophthalic polyester resin for both the skin and core. The skin is usually 1/8" thick and the core is polymer concrete. Since both skin and core are of the same resin system there is no difference in the coefficient of thermal expansion between our skin and core unlike other products utilizing a metal core. Glass-Steel, Inc. makes several styles of stop logs. For type "A" stop logs, each stop log has permanently cast in SST316 lifting eyes on the top side and a mating pocket on the bottom side of the stop log so that each stop log is completely interchangeable. A sponge neoprene rubber seal is attached to the bottom of each stop log to seal between logs and to seal between the bottom stop log and the floor or bottom closure. Neoprene J Bulb seals are mounted to both inside faces of the guide frames so that the stop logs are sealed against flow from either direction. The type A stop log has become obsolete, for the most part, because of the type B stop log.

For type "B" stop logs Glass-Steel, Inc. uses a fiberglass pultruded thermal cure rod thru the faces of the stop log for the lifting points instead of stainless lifting eyes. The exposed ends of the rods are coated with polyurethane for abrasion resistance. This type of stop log usually requires a special lifting beam for placement and retrieval. Slings can be used if the thru rods are extended out enough. All seals are the same as for the type "A" stop log. For a type "C" stop log the seal is only on one set of the slide guides; the side to which pressure will be applied. Vinyl ester and other resin systems are available.

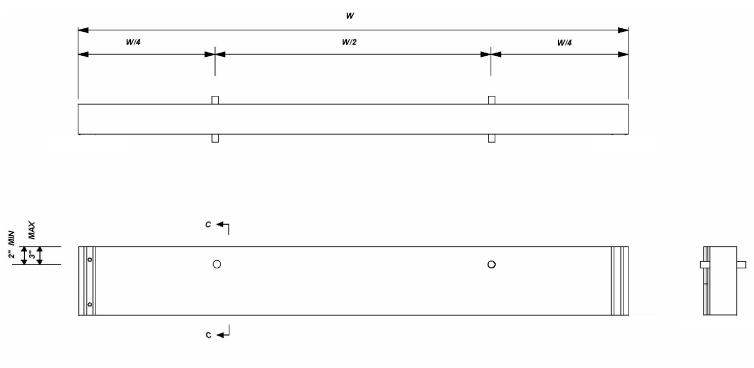
The slide guides for retaining the stop logs in place are usually made of the same materials as the stop logs themselves, Isophthalic polyester. The guides are fabricated from pultruded fiberglass shapes for maximum strength and corrosion resistance. We can also fabricate guides from aluminum or stainless steel materials. All anchors and other hardware is SST316.

#### **BENEFITS:**

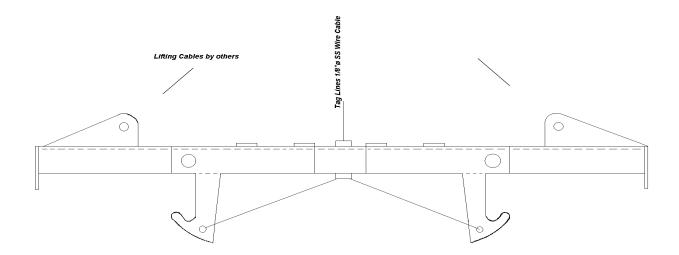
Glass-Steel, Inc. composite stop logs are less expensive than aluminum, stainless, or co-plastic stop logs. Because they are solid fiberglass they will not be subject to any corrosion because of any internal metal members. The surfaces are smooth fiberglass surfaces and are easily cleaned. Composite Stop Logs are dimensionally stable with a low coefficient of thermal expansion.■



Typical Stop Log Type B



Lifting Beam for Stop Log Type B



When Pin Protrusion is 2-2 1/2" a Standard Nylon Sling can be used for lifting the Stop Logs; By putting 1 eyelet around each end of the lifting peg. Use 2 slings per log.

# GLASS STEEL, INC.

## Load Table for Stop Logs

Clear span distance in feet											
Log	2'0"	3'0"	4'0"	5'0"	6'0"	7'0"	8'0"	9'0"	10'0"		
Thickness											
1-1/2"	10.07	2.968	1.249								
1-3/4"	15.99	4.713	2.072								
2"	23.86	7.035	2.96	1.523							
2-1/4"		10.02	4.215	2.168							
2-1/2"		13.74	5.782	2.974	1.717						
2-3/4"		18.29	7.696	3.958	2.287						
3"			9.991	5.139	2.97	1.866					
3-1/4"			12.7	6.533	3.776	2.373	1.492				
3-1/2"			15.87	8.16	4.716	2.963	1.864				
3-3/4"			19.51	10.04	5.8	3.646	2.292	1.431			
4"				12.18	7.039	4.424	2.782	1.737			
4-1/4"				14.61	8.443	5.306	3.115	1.944			
4-1/2"				17.34	10.02	6.298	3.961	2.473	1.622		
4-3/4"				20.4	11.79	7.408	4.659	2.909	1.908		
5"					13.75	8.64	5.434	3.392	2.226		
5-1/4"					15.92	10	6.291	3.927	2.577		
5-1/2"					18.3	11.5	7.233	4.516	2.963		
5-3/4"						13.14	8.264	5.159	3.385		
6"						14.93	9.39	5.862	3.846		

#### Number in chart is allowable feet of head with deflection limited to L/360



Stop Log Lifting Beam





FRP Guide Frame with J-bulb Seals

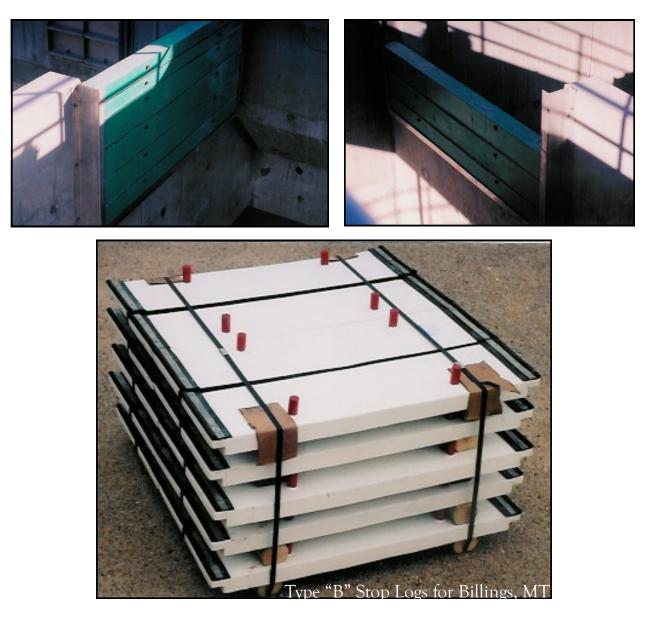
Galvanized Lifting Beam

# Load Table for Hybrid Stop Logs

	Number shown in table is feet of head of water with deflection limited to L/360										
	Span	2 ft	<b>3 ft</b>	<b>4 ft</b>	5 ft	6 ft	7 ft	<mark>8 ft</mark>	9 ft	10 ft	
Thickness	1.5 inches	23.353 ft	6.885 ft	2.877 ft							
modulus	$2.32 \times 10^6$	25.555 ft	0.005 ft	2.077 ft							
Thickness	1.75 inches	35 326 ft	10.415 ft	4.323 ft							
modulus	$2.21 \times 10^6$	55.520 It	10.415 It	4.525 ft							
Thickness	2 inch		14 351 ft	6.093 ft	3.102 ft						
modulus	$2.04 \text{ x } 10^6$		14.551 11	0.075 ft	5.102 It						
Thickness	2.25 inch		19.382 ft	8.156 ft	4.195 ft						
modulus	1.935 x 10 <sup>6</sup>		17.502 It	0.150 H	4.195 ft						
Thickness	2.5 inches		26 143 ft	11.002 ft	5.658 ft						
modulus	1.848 x 10 <sup>6</sup>		20.115 11	11.002 It	5.050 H						
Thickness	2.75 inches			13.642 ft	7.016 ft	4.052 ft					
modulus	1.773 x 10 <sup>6</sup>			15.012 11	7.010 It	1.052 It					
Thickness	3 inch			17 065 ft	8.776 ft	5.069 ft	3.187 ft				
modulus	$1.708 \ge 10^6$			17.005 It	0.770 It	5.007 It	5.107 H				
Thickness	3.25 inch			20 730 ft	10.662 ft	6.158 ft	3.872 ft				
modulus	$1.652 \ge 10^6$			20.750 ft	10.002 It	0.150 ft	5.072 H				
Thickness	3.5 inch				13.072 ft	7.550 ft	4.747 ft	3.189 ft			
modulus	$1.602 \ge 10^6$				15.072 10	7.550 R	1.7 17 10	5.107 1			
Thickness	3.75 inch				15.636 ft	9.031 ft	5.679 ft	3.815 ft			
modulus	$1.558 \ge 10^6$				15.050 It	<i>7.051</i> R	5.077 H	5.015 H			
Thickness	4 inch				18 502 ft	10.686 ft	6.719 ft	4.514 ft	3.167 ft		
modulus	1.519 x 10 <sup>6</sup>				10.502 It	10.000 It	0.719 11	1.5111	5.107 10		
Thickness	4.25 inch				21 681 ft	12.685 ft	7.874 ft	5.289 ft	3.710 ft		
modulus	$1.484 \ge 10^6$				21.001 It	12.005 10	7.0711	5.207 R	5.710 10		
Thickness	4.5 inch					14.543 ft	9.145 ft	6.143 ft	4.309 ft	3.138 ft	
modulus	$1.452 \ge 10^6$					1 1.5 15 1	<i><i>уну</i></i>	0.1 15 11	1.507 11	5.150 H	
Thickness	4.75 inch					16.764 ft	10.541 ft	7.081 ft	4.967 ft	3.617 ft	
modulus	$1.423 \ge 10^6$					101/0110	10.0 .1 10	,			
Thickness	5 inch					19.194 ft	12.070 ft	8.108 ft	5.687 ft	4.142 ft	
modulus	1.397 x 10 <sup>6</sup>					19119 1 10	12:07010	0.100 1	0.007 10		
Thickness	5.25 inch					21.254 ft	13.742 ft	9.231 ft	6.475 ft	4.716 ft	
modulus	1.374 x 10 <sup>6</sup>						10.7.12.10	<i>y</i> . <u>-</u> <i>v</i> I II			
Thickness	5.50 inch						15.548 ft	10.460 ft	7.326 ft	5.335 ft	
modulus	1.352 x 10 <sup>6</sup>										
Thickness	5.75 inch						17.503 ft	11.757 ft	8.017 ft	6.006 ft	
modulus	$1.332 \times 10^{6}$									5.000 10	
Thickness	6 inch						19.603 ft	13.167 ft	9 236 ft	6.727 ft	
modulus	1.313 x 10 <sup>6</sup>						17.005 II	15.10/ 11	7.250 ft	0.727 It	



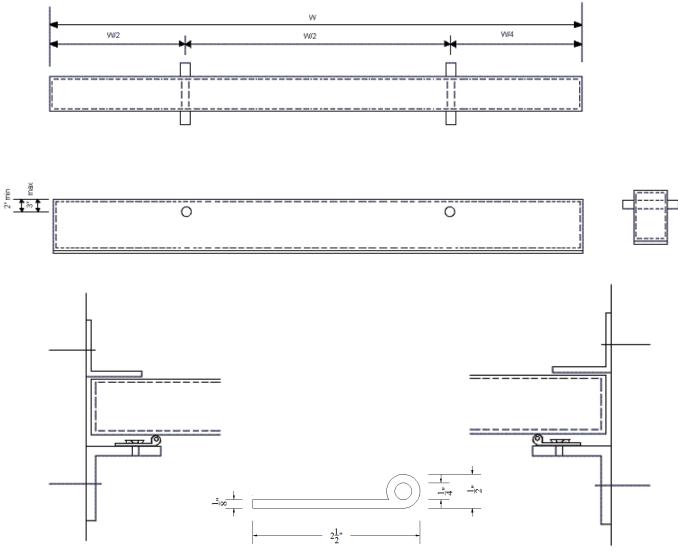
Las Vegas, NV Type "B" Stop Logs 10'0" clear span rated for 8' of head



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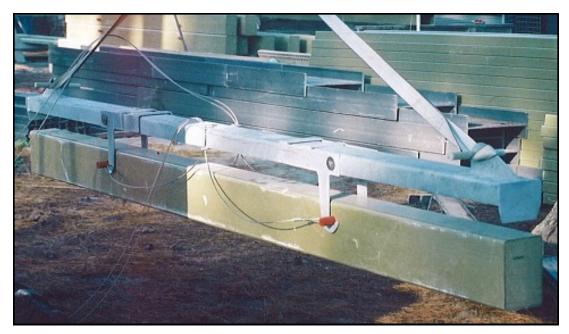
#### **TYPE P STOP LOGS**

Type P stop logs are specialty stop logs for use in drying bed applications where floatation is not a problem. These stop logs are built from pultruded fiberglass tubular shapes in depths from 4" to 12" or larger and heights from 6" to 24" or higher per log. All ends are sealed water tight. Lifting pins are fiberglass with urethane coated ends for abrasion resistance which is the same as on our Type B stop log. Sponge neoprene flat seals are on bottom of log only. End seals are on guide frame members. Hollow stop logs are lighter in weight than standard stop logs and less expensive. Because they are lighter than water they cannot be used in open flow channels when water is potentially present on both sides of the stop log. These logs are specifically designed for loads on one side only. A typical 6" x 9" log, 10' long will weight less than 80#.■



1/2" Hollow "J" Bulb Seal

# GLASS STEEL, INC.



Type "P" stop log with galvanized steel lifting beam engaged. Stop logs for installation in Ft. Collins, CO. Stop log 6" x 9" x 12'0"



Same stop log as above except lifting beam disengaged by pulling on tag line