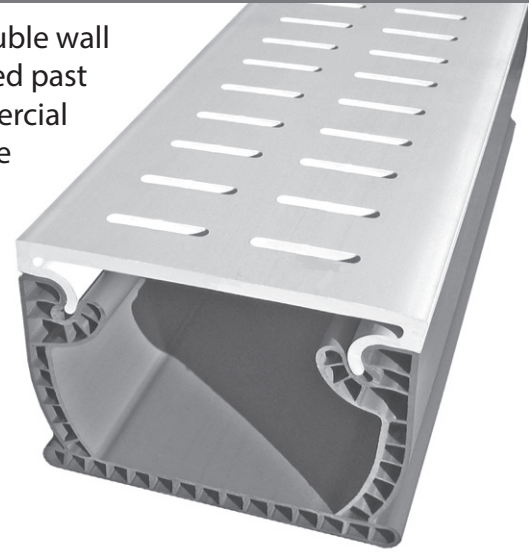
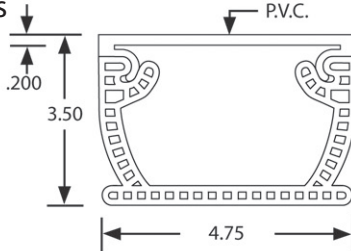


## FLOWMASTER COMMERCIAL DRAIN

Flowmaster Commercial is a 4" removable top drain that features a double wall base and a snap in top. When installing this drain the tops are staggered past the joints making the joints very rigid. Because the Flowmaster Commercial Drain tops are removable this drain is easy to clean and the tops can be replaced if necessary. Flowmaster Commercial Deck Drain is used on many commercial swimming pools, patios and other areas where large amounts of water need to be removed.



### FLOW RATE: Drain Calculations

#### Assumptions/ Constants:

Gradient - Slope (S) 1 in 200 (0.5%)	0.005 ft/ft, Contains UV inhibitors
Surface Roughness (Mannings n)	0.009 Plastic (PVC & ABS), Contains UV inhibitors
Rainfall Intensity (I) (TxDOT Manual)	5.8 in/hr for 10 year storm with time of concentration = to time of duration of 20 min.
Runoff Coefficient (C) (TxDOT Manual)	0.95 For concrete city streets 0.9 - 0.95 - i.e. all concrete pool deck

DRAIN NAME	Area A (ft <sup>2</sup> )	Wetted Perimeter P (ft)	Hydraulic Radius R (ft)	Velocity V (ft/s)	Capacity - Q			Catchment Area - A			Length (ft)
					(cfs)	(liters/sec)	(gal/min)	(Acre)	(ft <sup>2</sup> )	(m <sup>2</sup> )	
<b>FLOWMASTER COMMERCIAL</b>	<b>0.131</b>	<b>0.935</b>	<b>0.140</b>	<b>3.158</b>	<b>0.414</b>	<b>11.7</b>	<b>185.7</b>	<b>0.075</b>	<b>3270</b>	<b>304</b>	<b>1</b>

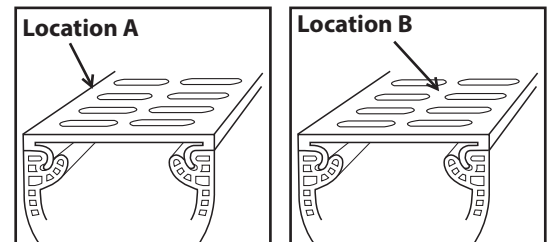
### Notes/Equations:

- Above Catchment area based upon 1 foot, 1 meter, etc of the drain section.
- $R = A/P$
- $v = (1.49/n) * (R)^{(2/3)} * (S)^{(1/2)}$
- $Q = vA$
- $A = Q/CI$

### LOAD TESTING:

FLOWMASTER COMMERCIAL	DEFLECTION TO HORIZONTAL LINE		PUNCTURE/PERMANENT DEFORMATION MORE THAN 1/2"	
	LOCATION A	126 psi	LOCATION A	675 psi
	LOCATION B	104 psi	LOCATION B	768 psi

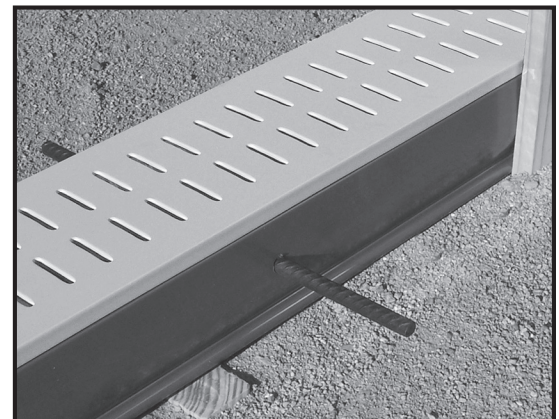
### Impact Figures:



**Cartons includes:** 4 pcs. 10' Base, 4pcs. 10' Top Cap, 4 Couplers.

### Recommended Stabilization:

To protect the drain from movement of the concrete, it is recommended to drill and pin the base of the drain midway, using a coated or non-metallic rigid reinforcement material. This dowel may be part of the reinforcement of the concrete slab but short bars are also effective, as their purpose is to hold the concrete apart, stabilizing the base of the drain.



Project Information	Contractor Information	Architect Information
Name:	Name:	Name:
Address:	Contact:	Contact:
	Phone:	Phone:
	Fax:	Fax: