



CORE Liner[®] Hydraulic Performance

I. Flow Velocity and Flow Rate

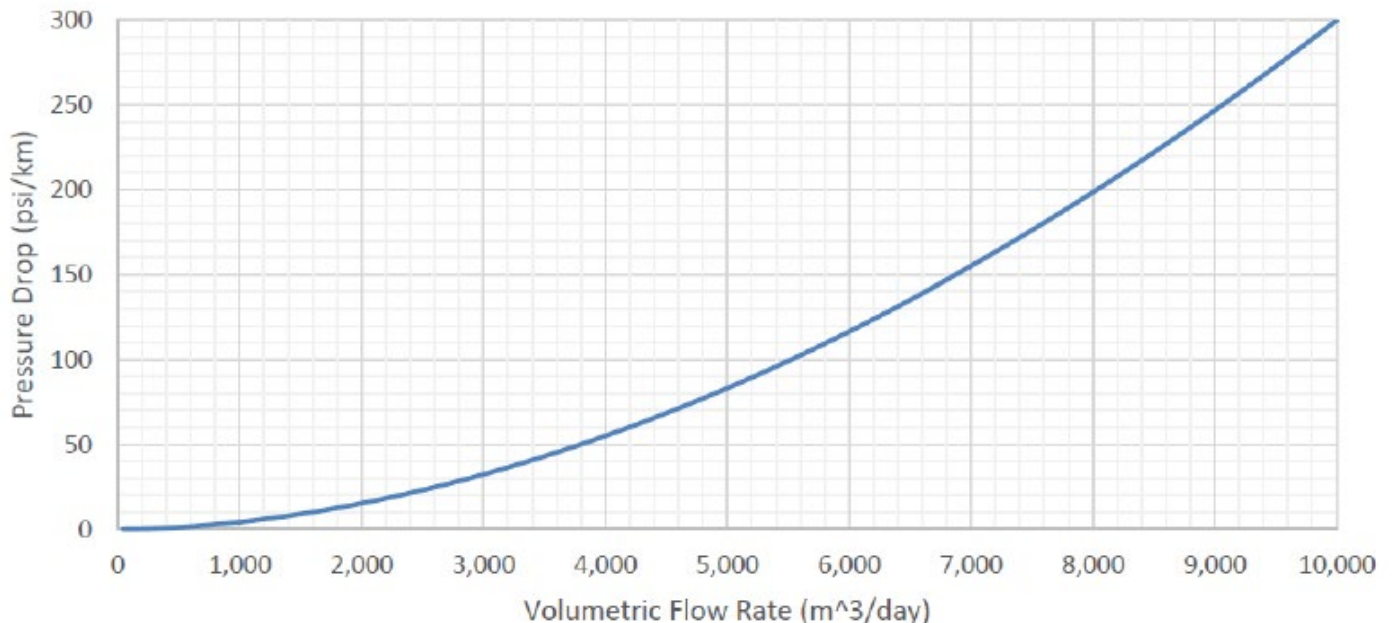
The smooth polyethylene inner layer of CORE Liner[®] provides excellent flow characteristics with minimal friction loss. The maximum flow velocity and the maximum flow rate for a particular pipeline will depend on the level of friction loss that can be tolerated and on the likelihood and impact of potential water hammer events. Erosion is typically not a limiting factor for flow velocity in polyethylene lined pipelines in liquid service. As a guideline, the industry commonly uses a typical maximum flow velocity of 3 m/s, resulting in the following flow rates and friction losses in water service:

Size in	Flow Rate m ³ /day	Friction Loss psi/km	Friction loss, psi			
			1 km	5 km	10 km	20 km
6	4,300	65	65	325	650	1300
8	7,400	50	50	250	500	1000
Twin 8	14,800	50	50	250	500	1000

The below charts reflect the expected friction loss for a variety of flow rates.

II. Friction Loss for 6” Pipe in Water Service

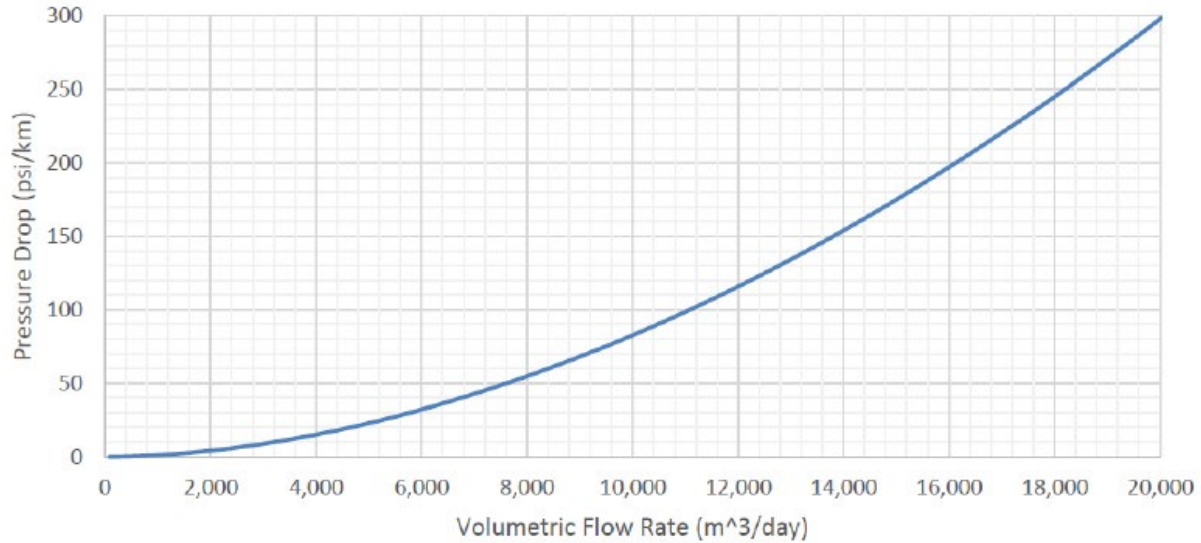
Nominal Pressure Drop for 6in Pipe (psi/km) - ID 145.8mm





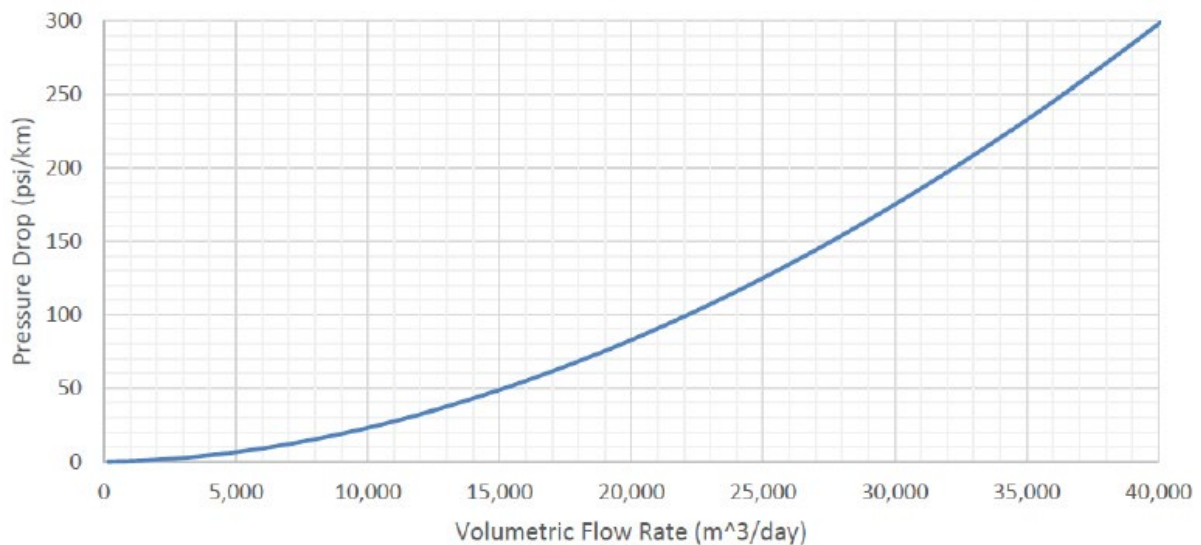
III. Friction Loss for 8” Pipe in Water Service

Nominal Pressure Drop for 8in Pipe (psi/km) - ID 190mm



IV. Friction Loss for Twin 8” Pipes in Water Service

Nominal Pressure Drop for Twin 8in Pipe (psi/km) - ID 190mm



V. Flow Coefficients

Hazen-Williams	150
Darcy-Weisbach Surface Roughness	0.0015 mm or 0.000005 ft
Manning	0.009