MOHAMMED SALIM OTHMAN

17/ENG06/055

MECHANICAL ENGINEERING

ASSIGNMENT 3

Given µ= 0.9, , , ,

From continuity equation

q = A.u

where

Because Re < 2000, the flow is laminar

Given , G = 0.85, ,

, D = 65mm = 0.065m , L = 95m

Rate of flow, Q = A.u

Where

Centre line velocity =

But,

Total frictional drag, fD

Where

Power required to maintain flow

Velocity gradient at the pipe wall

Velocity and shear stress 60mm from wall

The shear stress can be found as;