MECHANICAL PROPERTIES OF FLUIDS

(1). Relative density of a substance $p_{rizi} = \frac{\text{lubstarice}}{\text{p at zi}^{6}\text{C}}$

{2i. Gauge pressure — pgh

Apparent weight of a body of 'density in e fluid of dernity p

W'= IN (ī — $\frac{11}{a}$, W = weight of the body in air

{411. Equation of continuity Av = constant

Hera, A = cross-Aactionial area of pipe and v = flu id velocity

{5M. BernoullIP5 equation= At any point in a streamline flow

$P + pgh + \frac{1}{2}pv^{z} = \text{constant}$

Here, F= pressure, v = fluid velocity and p is density.

{6.11, Coefficient (Jf viscosity ri =

Here,. F= Viscous force. ^{1} = Separation tretwocn two lamina, A =rea of each lamina and v = Relative velocity of two lamina

{711. According to Stokeslaw F _ -61ritav

Here, a = radius a ball or drop and v = velocity of ball or drop

0. Formula for Terminal velocity. is $V_T = \frac{}{9Q}$ {p —09

eihere, p = density of falling body, 43 = density of fluid and ri = coefficient of viscosity.

0). Reynolds number. $R = \frac{PVC1}{JI}$ where, d ▪ diameter of the pipe

Olt Excess pressure inside a liquid drop or a cavity of radius R is $\frac{2}{R}$ where S is surface tension

EXce55 Pre5i4ire irksi.de m 1 r twIDEPle is $P_o = \frac{45}{R}$

On Height of a 1111:0101 irk a capillary tube is $h = \frac{2s \cos \theta}{fpgl}$

Where,. I = angte Of cDritact, p = dens of the liquid and g = www.FirstRanker.com