LIST OF SYMBOLS

PART - I

c : intercept of line on y-axis.

m_1 : regression coefficient of y on x.

m_2 : regression coefficient of x on y.

PART - II

A : Area of cross section , angle of orientation of the longer diagonal of the knoop indentation mark measured from [100] direction.

A_o : Initial area of cross-section.

a : Standard hardness.

a_o : Minimum value of A in the parabolic plot of H Vs. A.

b : Constant

b_2 : Constant in the HLR (Standard hardness).

c_1 : Constant.

C : Constant ; constant of indentor geometry.

C_c : Calculated value of intercept using formula $C = \frac{1}{2}\sqrt{n_o \cdot a_o}$

C_s : Statistically determined value of the intercept of the straight line plot of $\sqrt{H\ A}$ Vs. A.

C_{Ar} : Constant for different applied loads and orientation

d : Diagonal length of Knoop indentation mark.

d_{Ar} : Length of the longer diagonal of Knoop indentation mark corresponding to different applied loads P_r and orientation A.

E : Young's Modulus of elasticity.

H : Average hardness in high load region.

HLR : High load region.

h_o : Minimum value of hardness in the parabola of $\bar{H}$ Vs. A.

ILR : Intermediate load region.

k : Constant.

l : Length after small compression.

l_o : Initial length.

LLR : Low load region.

m : Slope of the plot of log $\bar{H}$ T_q Vs log T_q; slope of the plot of $\sqrt{\bar{H} A}$ Vs. A.

m_1 : Slope of the plot of log $T_q \sqrt{\bar{H} A}$ Vs. log T_q.

m_A : Slope of the plot of log T_q d Vs. log T_q.

m_c : Calculated value of slope by using formula $m = \frac{1}{2}\sqrt{h_o/a_o}$ for straight line plot of $\sqrt{\bar{H}\,A}$ Vs. A.

m_s : Statistically determined value of the slope of the straight line plot of $\sqrt{\bar{H}\,A}$ Vs. A.

T_q, T_Q : Quenching temperature °K .

W, w_2 : Newtonian resistance pressure

σ : Compressive stress.

ϵ : Compressive strain .

V_l : Lateral dissolution velocity.

v_n : Normal dissolution veloity.

E_t : Activation energy for tangential movement .

E_s : Activation energy for surface dissolution.