

List of symbols and abbreviations

PART I

a,b,c	:	Lattice paramters of unit cell
C	:	Intercept of line on Y-axis
d-AHT	:	Ammonium hydrogen d-tartarate crystal
$d_{hkl}$	:	Interplanar spacing of (hkl) planes
F	:	Feed solution
M	:	Molarity
m	:	Slope of straight line plot
$m_1$	:	Regression coefficient of y on x
$m_2$	:	Regression coefficient of x on y
N	:	Normality
r	:	Correlation coefficient
W	:	Molecular weight
$\bar{x}$	:	mean (average) value
$\bar{y}$	:	mean (average) value
$\theta$	:	Temperature in °C
$d\theta$	:	temperature difference
$\rho$	:	density of d-AHT
$\rho'$	:	density of kerosene

## PART II & III

A	: area of cross section : angle of orientation of the longer diagonal of the Knoop indentation mark measured with respect to the specified direction
A <sub>0</sub>	: initial area of cross-section
a	: standard hardness (constant)
A <sub>R</sub>	: axis of rotation
b	: constant
c	: constant : constant of indenter geometry
d	: diagonal length of Knoop indentation mark
E	: Young's modulus of elasticity
e, f	: constant
F	: Free, face (facet)
H	: average hardness in high load region
HLR	: high load region
h <sub>0</sub>	: minimum value of hardness in the quadratic equation of H Vs A
ILR	: intermediate load region
K	: constant
l	: length after small compression
l <sub>0</sub>	: initial length
LLR	: low load region
n	: slope of the plot of log d vs log P
n <sub>1</sub>	: slope of the plot of log d vs log P in LLR
n <sub>2</sub>	: slope of the plot of log d vs log P in HLR
P	: load in gms; constant
r	: constant of indenter geometry
RT	: Room temperature

SMS : Sodium metasilicate solution  
Sp.gr. : Specific gravity  
t : time  
T : absolute temperature  
TA : tartaric acid solution  
W : Newtonian resistance pressure  
O : Bragg angle  
d : path difference  
d : wavelength of x-ray beam  
 $\sigma$  : compressive stress  
 $\epsilon$  : compressive strain

#### PART IV

B	:	breadth of an etch pit
C	:	concentration of an etchant
E	:	activation energy
$E_t$	:	activation energy for tangential dissolution
$E_s$	:	activation energy for surface dissolution
K	:	Boltzmann constant :
L	:	Length of an etch-pit
R	:	Universal gas constant
V	:	rate of dissolution
$V_t$	:	lateral/tangential or ledge dissolution velocity
$V_L$	:	parallel to the surface
$V_n$	:	dissolution velocity normal to surface
$V_s$	:	rate of surface dissolution
$V_{nd}$	:	normal dissolution velocity at a dislocation
$V_{ndf}$	:	normal dissolution velocity of a dislocation-free portion of the surface