

NOMENCLATURE

α , β	Basquin pre-exponent and fatigue life exponent, respectively
α_i , α_b	Basquin pre-exponent for i^{th} treatment and base material categories, respectively
β_i , β_b	Basquin exponent for i^{th} treatment and base material categories, respectively
θ_{PEi} , θ_{Ei}	Life reduction pre-exponent and exponent, respectively for treatment i
η_b , η_i	Inverse Basquin Exponents for base material and i^{th} categories, respectively
Ψ_{PEi} , Ψ_{Ei}	Cycle reduction pre-exponent and exponent, respectively for i^{th} treatment.
σ_a	Alternating stress (stress amplitude)
ξ_b , ξ_i	Inverse Basquin pre-exponent for base material and i^{th} categories, respectively
Ψ_{PEi} , Ψ_{Ei}	Cycle reduction pre-exponent and exponent, respectively for i^{th} treatment
θ	Bragg angle
N_f	Number of cycles to failure
μm	micron(s)
rpm	Revolutions per minute
AISI	American Institute of Iron & Steel
ASTM	American Society for Testing and Materials
APS	Atmospheric Plasma Spray
BS	British Standard
CAD	Computer Aided Drawing
CVD	Chemical Vapor Deposition
D.C.	Direct Current
DIN	Deutsches Institut für Normung (in English, the German Institute for Standardization)

DOE	Design of Experiments
EDAX	Energy Dispersive X-Ray Analysis
EDS	Energy Dispersive Spectroscopy
EPMA	Electron Probe Micro-analysis
FCC	Face Centered Cubic
FEA	Finite Element Analysis
FEM	Finite Element Method
GOST	Gosudarstvennyy Standart (Russian:государственный стандарт), (which means government's standard)
HCF	High Cycle Fatigue
HCP	Hexagonal Close Packed
HRc	Rockwell Hardness in C-scale
Hv	Vickers Hardness
HVOF	High Velocity Oxy-fuel
ISO	Organisation Internationale de Normalization (In English- International Organization for Standardization)
kHz	kilo Hertz
KV	Kilo electron volt(s)
LCF	Low Cycle Fatigue
LVDT	Linear Variable Differential Transformer
mA	Milli-ampere(s)
mHz	mili Hertz
MPa	Mega Pascal
PAPVD	Plasma Assisted Physical Vapor Deposition
PVD	Physical Vapor Deposition
RCF	Rolling Contact Fatigue
SEM	Scanning Electron Microscopy
S-N	Stress versus Number of life cycles
UCI	Ultrasonic Contact Impedance
x	Magnification
XRD	X-ray Diffraction