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## ***Abbreviations***

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AISI	American Iron and Steel Institute
ALP	Alkaline Phosphatase
ASTM	American Society for Testing and Materials
BDT	Brittle to Ductile Transition
Co-Cr	Cobalt-Chromium
CSO	Cotton Seed Oil
DBTT	Ductile to Brittle Transition Temperature
DMG	Dimethyl-glyoxime
DMEM	Dulbecco's Modified Eagle's Medium
FBS	Fetal Bovine Serum
FCC	Face Centered Cubic
GPa	Giga Pascal
GPMT	Guinea Pig Maximization Test
HCF	High Cycle Fatigue
IARC	International Agency for Research on Cancer
IGC	Intergranular Corrosion
ISO	International Organization for Standardization
IREL	Increment Rate of Endurance Limit
LCF	Low Cycle Fatigue
MARC	Measure of Alloying for Resistance Against Corrosion
MEM	Minimum Essential Medium
MPa	Mega Pascal
MRI	Magnetic Resonance Imaging
MTT	3-[4,5-Dimethyl-thiazol-2-yl]-2,5-diphenyl tetrazolium bromide
OCP	Open Circuit Potential
PBS	Phosphate Buffer Saline
PREN	Pitting Resistance Equivalent Number
PS	Physiological Saline

RT	Room Temperature
SBF	Simulated Body Fluid
SCE	Saturated Calomel Electrode
SEM	Scanning Electron Microscope
SFE	Stacking Fault Energy
SMAT	Surface Mechanical Attrition Treatment
SMRT	Surface Mechanical Rolling Treatment
TEM	Transmission Electron Microscope
Ti	Titanium
USPed	Ultrasonic Shot Peened
USP	Ultrasonic Shot Peening
UHMWPE	Ultra-High Molecular Weight Polyethylene
UTS	Ultimate Tensile Strength
WHO	World Health Organization
XPS	X-ray Photoelectron Spectroscopy
XRD	X-ray Diffraction
YS	Yield Strength

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## ***Symbols***

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Hz	Hertz
°C	Degree Centigrade
mgL <sup>-1</sup>	Milligram Per Liter
gL <sup>-1</sup>	Gram Per Liter
molL <sup>-1</sup>	Moles Per Liter
μg/cm <sup>2</sup> /week	Microgram Per Square Centimeter Per Week
mm	Millimeter
H <sub>v</sub>	Vickers Hardness
wt%	Weight Percent
k	Kilo
μm	Micrometer
V	Volt
θ	Theta
kN	Kilo Newton
h	Hour
Sec	Second
Min	Minute
E <sub>corr</sub>	Corrosion Potential
E <sub>bd</sub>	Breakdown Potential
i <sub>cr</sub>	Critical Current Density
i <sub>corr</sub>	Corrosion Current Density
Δε <sub>t</sub> /2	Total Strain Amplitude
Δε <sub>e</sub> /2	Elastic Strain Amplitude
Δε <sub>p</sub> /2	Plastic Strain Amplitude
Δσ/2	Stress Amplitude
N <sub>f</sub>	Fatigue Life
2N <sub>f</sub>	Number of Reversals to Failure
σ <sub>t</sub>	Cyclic Tensile Stress

$\sigma_c$	Cyclic Compressive Stress
$\leq$	Less Than or Equals to
$\geq$	Greater Than or Equals to
$=$	Equals to
$\sim$	Approximately
<b>R</b>	Stress Ratio
$N_i$	Number of Cycles for Crack Initiation
$N_p$	Number of Cycles for Crack Propagation
$\text{mJ/m}^2$	Milli Joule per square meter