

## LIST OF ABBREVIATIONS AND SYMBOLS

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Abbreviation	Description
Al	Aluminum
Si	Silicon
Cu	Copper
Fe	Iron
h	Height
d	Diameter
h/d	Aspect ratio
R	Reduction ratio
Ø	Diameter
wt. %	weight percentage
R <sub>q</sub>	Root mean square roughness
XRD	X-ray diffraction
SEM	Scanning electron microscope
EDS	Energy Dispersive X-Ray Spectroscopy
AFM	Atomic force microscope
ASTM	American society for testing and material
HV	Vicker's hardness
HRC	Rockwell hardness
ICDD	International Centre for Diffraction Data
UTS	Ultimate tensile strength
a. u.	Arbitrary unit
$\sigma$	Axial compressive stress
$\tau$	Frictional stress
p	Normal stress
$\theta$	Theta

g	Gram
m	Meter
mm	Millimeter
$\mu\text{m}$	Micrometer
nm	Nanometer
MPa	Mega pascal
kN	Kilo newton
N	Newton
$^{\circ}\text{C}$	Degree Celsius