List of Abbreviations

Abbreviations	Full name
RSM	Response Surface Methodology
CCD	Central Composite Design
BBD$_S$	Box Behnken Designs
ANOVA	Analysis Of Variance
GFRP	Glass Fiber Reinforced Plastics
RA	Regression Analysis
CNN	Computerised Neural Network
SECA	Side Cutting Edge Angle
CBN	Cubic boron nitride
PCD	Polycrystalline Diamond
MRR	Material Removal Rate
DOC	Depth of Cut
ANFIS	Adaptive Neuro Fuzzy Inference System
SEM	Scanning Electron Microscopy
CNC	Computerised Numerical Control
PEEK	Polyetheretherketone
ANN	Artificial Neural Network
SNR	Signal to Noise Ratio
PTFE	Polytetrafluoroethylene
FEA	Finite Element Analysis
MQL	Minimum Quantity Lubrication
CAE	Computer Aided Engineering
M_{max}	Maximum bending moment
y	Distance of outermost fiber from the neutral axis (mm)
I	Moment of inertia of the section about the neutral axis (mm^4)
σ	permissible normal stress (N/mm^2)
δmax	Maximum deflection (mm)
$V\sigma$	Minimum volume of metal required for sufficient strength
$V\delta$	Minimum volume of metal required for deflection
E	Modulus of elasticity (N/mm^2)
d	Depth of cut (mm)
f	Feed (mm/rev)

V	Cutting Speed (m/min)
r	Tool nose radius (mm)
η	Efficiency (%)
U	Unit power (kW/ m^3/min)
Kh	correction factor for flank wear
Ky	correction factor for rake angle
Q	Material removal rate (m^3/min)
P	Power at spindle (Kw)
P_z	Tangential cutting force (N)
Ra	Surface roughness (Ra)