

LIST OF SYMBOLS

$\bar{\sigma}$:	Flow stress of the feedstock material.
μ	:	Coefficient of friction
d	:	Diameter of the feedstock.
C	:	Contact width.
A	:	Cross sectional area of the groove.
K	:	Shear strength of the feedstock.
Y	:	Yield strength of the feedstock.
P_e	:	Total power required for extrusion of feedstock.
P_{avg}	:	Total average pressure required for feedstock.
g	:	Acceleration due to gravity
L_{opt}	:	Optimum die length
N	:	Rpm of the wheel.
P_F	:	Frictional powers in primary grip region.
W	:	Width and depth of the groove.
a_e	:	Length over which the shearing can occur.
P_C	:	Contact pressure.
D	:	Diameter of wheel.
Y	:	Compressive yield strength of feedstock
X	:	Contact width
μ	:	Coefficient of friction between feedstock and groove,
l_1	:	Primary grip length
A	:	Cross-sectional area of feedstock: sectional area of groove.
l_2	:	Extrusion grip length

a_l	:	Length over which sliding can occur
a_s	:	Length over which shearing on occur
w	:	Depth and width of groove
P_e	:	Extrusion pressure
P_c	:	Contact pressure
A	:	Contact area of the feedstock in the grooved portion of the wheel.
V_o	:	Peripheral velocity of the extrusion wheel.
W	:	Average width of contact between feedstock and groove wall on length l_1
μ_1	:	Friction coefficient between feedstock and wall of groove
μ_2	:	Friction coefficient between feedstock and stationary shoe wall
Y	:	Yield strength of the feedstock material
K	:	Shear strength of feedstock material
V_o	:	Peripheral velocity of wheel.
P_l	:	Perimeter of product
θ	:	Angle between horizontal container surface and feedstock while turning
L_l	:	Bearing length of feedstock
PBD	:	Plackett Burman Design
CCD	:	Central Composite Design
RSM	:	Response Surface Methodology
ANN	:	Artificial Neural Network
GA	:	Genetic Algorithm
UTS	:	Ultimate Tensile Strength
YS	:	Yield Strength
CAE	:	Computer Aided Engineering