NOMENCLATURE

$D_c$ - Contact diameter

$D_b$ - Bulged diameter of the deformed specimen

$D_0$ - Initial diameter of the specimen

$d_0$ - Initial diameter of the specimen

$h_0$ - Initial height of the specimen

$h_f$ - Final height of the deformed specimen

$h_b$ - Height of the bulged/barrelled part

$D_t$ - Major diameter of the truncated part

$d_t$ - Minor diameter of the truncated part

$h_t$ - Height of the truncated part

$\varepsilon^{'}_0$ - True diametrical strain

$\varepsilon^{''}_0$ - New hoop strain

$\varepsilon_z$ - True axial strain

$\sigma_\theta$ - Hoop stress

$\sigma_z$ - True axial stress

$\sigma_m$ - Hydrostatic stress

$\bar{\sigma}$ - Effective stress

$R$ - Radius of curvature of the barrel

$K$ - Strength Coefficient
n
S1, S2, S3, S4, S5, S6, S7, S8, and S9

C1, C2, C3, C4, C5, C6, C7, C8, C9,
C10, C11, C12, C13, C14, C15, and C16

m1, m2, m3, m4, m5, m6, m7, m8, m9,
m10, m11, m12, m13, m14, m15, and m16

P
- Strain hardening exponent

\( \psi \)
- New geometrical shape factor

\( \varphi \)
- Empirically determined constants

\( \varphi' \)
- Empirically determined constants

h
- Empirically determined constants

hc
- Friction factor

dc
- Height of extruded cylinder

\( \psi \)
- Diameter of extruded cylinder

\( \psi' \)
- Poisson’s ratio

\( \psi'' \)
- New poisson’ ratio