

## LIST OF SYMBOLS

$E_n$	= modulus of elasticity of component n, psi
$k_n$	= wall ratio of component n, $k_n \equiv r_n/r_{n-1}$
$K$	= overall wall ratio of container, $K \equiv r_N/r_0$
$K'$	= wall ratio of inner part of ring-fluid-segment container, $K' = r_3/r_0$
$N$	= the total number of components in a container; $N$ also denotes the outermost component
$n$	= a specific component when numbered from inside out; i. e., $n = 1, 2, \dots, N$
$p$	= bore pressure, psi
$p_3$	= fluid support pressure for the ring-fluid-segment container, psi
$r_n$	= outside radius of component n, inches
$r_{n-1}$	= inside radius of component n, inches
$r_0$	= bore radius of container, inches
$r_N$	= outer radius of container, inches
$S$	= shear stress, psi
$S_r$	= semirange in shear stress for a cycle of bore pressure, psi
$S_m$	= mean shear stress for a cycle of bore pressure, psi
$S_{\min}$	= minimum shear stress during a cycle of bore pressure, psi
$S_{\max}$	= maximum shear stress during a cycle of bore pressure, psi
$\sigma$	= design tensile stress of ductile steel, psi ( $\sigma \leq$ ultimate tensile strength)
$\sigma_1$	= design tensile stress of high-strength steel, psi ( $\sigma_1 \leq$ ultimate tensile strength)
$(\sigma)_r$	= semirange in tensile stress for a cycle of bore pressure, psi
$(\sigma)_m$	= mean tensile stress for a cycle of bore pressure, psi
$(\sigma)_{\min}$	= minimum tensile stress during a cycle of bore pressure, psi
$(\sigma)_{\max}$	= maximum tensile stress during a cycle of bore pressure, psi
$\alpha_r$	= semirange stress parameter for high-strength steel, $\alpha_r \equiv (\sigma)_r/\sigma_1$
$\alpha_m$	= mean stress parameter for a high-strength steel, $\alpha_m \equiv (\sigma)_m/\sigma_1$
$\sigma_r$	= radial stress, psi
$\sigma_\theta$	= circumferential (hoop) stress, psi
$\sigma_z$	= axial (longitudinal) stress, psi
$\Delta_n$	= interference required between cylinder, n, and cylinder, n + 1, inches
$\Delta_{12}$	= interference required between the liner, segments, and cylinder, 3, of the ring-segment and ring-fluid-segment containers, inches