LIST OF SYMBOLS USED IN THIS VOLUME

Symbol	Definition
A	area
b	effective length of monomer
C	concentration
c	elastic shear deformation
D	cylinder diameter
D_p	degree of polymerization
d	ball diameter
e	measure of the inner viscosity of a macromolecular coil
F	force
F_n	normal force
f	frequency
G	shear rate
G_m	maximum shear rate
H	power
H_v	power per unit volume
h	distance; film height
h_0	root mean square end-to-end distance of polymer coil at rest
h_1	root mean square end-to-end distance of polymer coil in motion
J	radii ratio of inner to outer cylinder
k	Boltzmann's constant
L	length of capillary; length of cylinder
L_0	equivalent length of conical cylinder
M	molecular weight
M	molecular weight of the monomer unit
M_v	viscosity average molecular weight
m	mass; kinetic energy constant
N	revolutions per unit time
N_A	Avogadro's number
n	refractive index
Δn	birefringence
P	pressure
$\bar{P}$	mean pressure
P_n	normal stress
ΔP	pressure gradient
Q	flow rate
Q_0	flow rate at zero shear stress
Q_A	flow rate across an annulus
Q_B	flow rate of fluid caused by ball displacement
R	radius of stator; radius of capillary; radius of cone
R_0	root mean square gyration radius of the undisturbed macromolecular coil
R_1	root mean square gyration radius of the moving macromolecular coil
R_e	Reynold's number
R_k	radius from center of rotation of concentric cylinders to knife edge
r	radius of rotor; radius of ball; radius of capillary
$\bar{r}$	mean radius
r_m	distance of monomer from center of mass of polymer coil
s	recoverable shear strain
T	absolute temperature, deg Kelvin
$\bar{t}$	mean fluid temperature in capillary
t_i	capillary inlet temperature
t_0	boundary temperature
t_m	midplane temperature
Δt	temperature difference
v	velocity; ball velocity; peripheral velocity of rotor
X	torque
x_p	per cent change in viscosity per 100 psi pressure change across the capillary
y_t	per cent change in viscosity per deg Fahr average temperature change
α	valency angle between monomers; change in viscosity caused by pressure effects
β	viscosity equivalent of the kinetic energy correction
γ	viscosity change caused by temperature effects
Δ	viscosity change caused by shear dependence
ϵ	eccentricity
η	viscosity; viscosity of solution

η_a	apparent viscosity
η_0	viscosity of solvent
η_r	relative viscosity, η/η_0
η_{sp}	specific viscosity, $\eta_r - 1 = (\eta - \eta_0)/\eta_0$
η_{sp}/C	viscosity number
$[\eta]$	intrinsic viscosity, $\lim_{c \to 0} \eta_{sp}/C$
θ	angle cone makes with flat plate
κ	thermal conductivity
Λ	hydrodynamic resistance coefficient
λ	heat transfer coefficient
ρ	density
τ	shearing stress; shearing stress applied to solvent
τ_m	maximum shearing stress
τ_0	shearing stress applied to solution
τ_c	shearing stress used in overcoming viscous resistance
ϕ	angle of rotation around the chemical bond joining monomers; angle of cone
ϕ_e	angular motion of the rotor under elastic recoil
χ	extinction angle
ω	angular velocity