GLOSSARY OF TERMS

$\dot{\gamma}_w$	-	shear rate
$\dot{\gamma}_{w,a}$	-	apparent shear rate
ν	-	crosslink density
ρ	-	density
α	-	extension ratio
χ	-	interaction parameter
δ	-	solubility parameter
η	-	viscosity
ε'	-	dielectric constant
ε''	-	dielectric loss factor
$\tau_{11} - \tau_{22}$	-	principal normal stress difference
μ^2	-	average area of dispersed phase
η_{app}	-	apparent viscosity
ΔG	-	free energy of mixing
ΔH	-	enthalpy
ϕ_i	-	volume fraction
ΔS	-	entropy
η_{sp}	-	specific viscosity
τ_w	-	shear stress
$[\eta]$	-	intrinsic viscosity
A_0	-	cross-sectional area
ACR	-	rubbery acrylate copolymer
AFM	-	atomic force microscope
A_p	-	area of the plunger
Au	-	gold
b	-	interaction coefficient
BIIR	-	brominated isobutylene isoprene rubber
BR	-	butadiene rubber
CBS	-	cyclohexyl benzothiazyl sulphenamide
CIIR	-	chlorinated isobutylene isoprene rubber
CM	-	chlorinated polyethylene
CPC	-	cloud point curve
CR	-	chloroprene rubber
CRI	-	cure rate index

D	-	diffusion coefficient
D*	-	intrinsic diffusion coefficient
d_c, d_b	-	diameter of the capillary and barrel respectively
DCP	-	dicumyl peroxide
DMTA	-	dynamic mechanical thermal analysis
DSC	-	differential scanning calorimetry
DTG	-	derivative thermogravimetry
E''	-	loss modulus
E'	-	storage modulus
E_b	-	Elongation at break
EBIC	-	electron beam induced current
EBIV	-	electron beam induced voltage
ENR	-	epoxidised natural rubber
EPDM	-	ethylene-propylene-diene terpolymer
EPM	-	ethylene-propylene copolymer
EVA	-	poly(ethylene-co-vinyl acetate)
E_a	-	activation energy
F	-	force
FR	-	fluorinated rubber
FTIR	-	fourier transform infrared
G	-	elastic shear modulus
GC	-	gas chromatography
HAF	-	high abrasion furnace black
IIR	-	isobutylene isoprene rubber
IPN	-	interpenetrating network
IR	-	isoprene rubber
k	-	constant
l	-	length of the capillary
LDPE	-	low density polyethylene
LFM	-	lateral force microscope
MBTS	-	mercapto benzothiazyl disulphide
M_c	-	molecular weight between crosslinks
n	-	constant
n'	-	flow behaviour index
NBR	-	acrylonitrile-butadiene rubber
Ni	-	nickel
NMR	-	nuclear magnetic resonance
NR	-	natural rubber
OsO_4	-	osmium tetroxide
P	-	permeation coefficient, pressure
PA-6	-	polyamide-6

PAN	-	polyacrylonitrile
PC	-	polycarbonate
Pd	-	palladium
PE	-	polyethylene
PP	-	polypropylene
PPO	-	poly(2,6-dimethyl-1,4-phenylene oxide)
PS	-	polystyrene
PVAc	-	poly(vinyl acetate)
PVC	-	poly(vinyl chloride)
PVF_2	-	poly(vinylidene fluoride)
Q_∞	-	equilibrium uptake
Q_t	-	mol per cent uptake at time t
R	-	universal gas constant
RuO_4	-	ruthenium oxide
S	-	sorption coefficient, sulphur
SAN	-	styrene-acrylonitrile copolymer
SBR	-	styrene-butadiene rubber
SEM	-	scanning electron microscope
SIN	-	semi-interpenetrating network
S_R	-	recoverable shear strain
SRF	-	semi-reinforcing furnace black
T	-	temperature
T_1	-	spin-lattice relaxation time
T_2	-	spin-spin relaxation time
tan δ	-	damping factor
TDDC	-	tellurium diethyl dithiocarbamate
TEM	-	transmission electron microscope
TETD	-	tetraethyl thiuram disulphide
TGA	-	thermogravimetry
TM	-	thiokol rubbers
TMTD	-	tetramethyl thiuram disulphide
TOA	-	thermo-optical analysis
V_s	-	molar volume of solvent
V_{xh}	-	cross-head speed
w	-	weight
W_i	-	weight fraction
X_c	-	degree of crystallinity
XNBR	-	carboxylated nitrile rubber
XRD	-	X-ray diffraction