

GLOSSARY

α	- fractional conversion at time t, interfacial tension
ρ	- density
ϕ	- heating rate, volume fraction
χ	- interaction parameter
δ	- phase angle, Solubility parameter
Σ	- interfacial area occupied per compatibiliser molecule
σ	- stress, interfacial tension
σ_b	- maximum tensile strength
ε	- strain
ω	- frequency
τ	- shear stress, relaxation time
$\dot{\gamma}$	- shear rate, interfacial tension
η	- viscosity
β	- lattice constant
λ	- viscosity ratio
Γ	- interfacial tension
γ	- interfacial tension
$\dot{\gamma}$	- shear rate
$\Delta\gamma$	- interfacial tension reduction
$\Delta\Gamma$	- interfacial tension reduction
β' or β' (ω)	- complex interfacial dilation
β'' or β'' (ω)	- complex shear moduli
$\tau_{11}-\tau_{22}$	- principal normal stress difference
ε_b	- elongation at break
ϕ_d	- volume fraction of dispersed phase
η_d	- viscosity of dispersed phase
ΔG_m	- free energy of mixing
ΔH_c	- enthalpy of crystallisation
ΔH_f	- enthalpy of fusion
ΔH_m	- enthalpy of mixing
ϕ_m	- volume fraction of matrix phase
η_m	- viscosity of matrix phase
δ_p	- solubility parameter of polymer

δ_s	-	solubility parameter of solvent
ΔS_m	-	entropy of mixing
A_i	-	interfacial area per unit volume
C_a	-	capillary number
E'	-	storage modulus
E''	-	loss modulus
E_a	-	activation energy for decomposition
E^*	-	complex viscosity
E_b	-	modulus of blend
E_c	-	modulus of the composite
E_d	-	modulus of dispersed phase
E_m	-	modulus of matrix
E_p	-	modulus of the polymer
f	-	monomer fraction
G^* or $G^*(\omega)$	-	complex modulus of blend
G'	-	storage modulus
G''	-	loss modulus
G_d^* or $G_d^*(\omega)$	-	complex modulus of dispersed phase
G_{llc}	-	fracture energy
G_m^* or $G_m^*(\omega)$	-	complex modulus of matrix phase
HDT	-	heat deflection temperature
IPD	-	interparticle distance
K	-	rate constant for the change in interfacial tension
K	-	viscosity ratio
k	-	Boltzmann constant
K_{lc}	-	critical stress intensity factor
MW	-	molecular weight
n	-	Coran's parameter related to phase morphology
N_A	-	Avogadro's number
p	-	viscosity ratio
pdi	-	polydispersity index
R	-	universal gas constant, domain radius
r	-	radius of the domains
R_v	-	volume average domain radius
t	-	time
T	-	absolute temperature

T_c	- crystallisation temperature
T_g	- glass transition temperature
T_m	- melting temperature
T_{max}	- temperature at maximum rate of decomposition
T_{on}	- onset of degradation
$v(R)$	- particle size distribution function
Z_c	- degree of polymerisation of copolymer
A	- pre exponential constant
AA	- acrylic acid
ABS	- poly(acrylonitrile-co-butadiene-co-styrene)
ACS	- acrylonitrile-chlorinated polyethylene-styrene terpolymer
ADCB	- asymmetric double cantilever beam
AES	- acrylonitrile-ethylene rubber styrene
AFM	- atomic force microscopy
AN	- acrylo nitrile
aPP	- atactic polypropylene
APS	- aminopropyl triethoxysilane
ASTM	- american standards testing methods
ATBN	- amine-terminated butadiene nitrile liquid rubber
BA	- n-butyl acrylate
bcp	- block copolymer
BR	- butadiene rubber
CCD	- charge coupled detector
CEBC	- ethylene-(ethylene-co-butylene)-ethylene block copolymer
CL	- caprolactone
CMC	- critical micelle concentration
CPE	- chlorinated polyethylene
CTBN	- carboxyl terminated nitrile rubber
DCP	- dicumyl peroxide
DIA	- digital image analysis
DMA	- dynamic mechanical analysis
DMTA	- dynamic mechanical thermal analysis
dPS	- deuterated polystyrene
DSC	- differential scanning calorimetry
DTA	- differential thermal analysis
DTG	- derivative thermogravimetry
EA	- ethyl acrylate

EAA	- ethylene acrylic acid copolymer
EB	- ethylene butene copolymer
EEA	- ethylene ethylacrylate copolymer
EMAA	- ethylene methacrylic acid copolymer
EMAc	- ethylene methylacrylate copolymer
EMMA	- ethylene methyl methacrylate copolymer
ENR	- epoxidized natural rubber
EP	- ethylene propylene copolymer
EPDM	- ethylene propylene diene terpolymer
EPR	- ethylene propylene rubber
ESCA	- electron spectroscopy for chemical analysis
EVA	- ethylene vinyl acetate copolymer
FRES	- forward recoil spectroscopy
FTIR	- fourier transform infra-red spectroscopy
gcp	- graft copolymer
GMA	- glycidyl methacrylate
GPC	- gel permeation chromatography
HDPE	- high density polyethylene
HIPS	- high impact polystyrene
hSBR	- hydrogenated poly(styrene-co-butadiene) rubber
IA	- isobutyl acrylate
IDT	- Initial decomposition temperature
IIR	- polyisoprene
ILSS	- interlaminar shear strength
IPDT	- integral procedural decomposition temperature
IPN	- Interpenetrating polymer network
IPO	- isopropenyl oxazoline
iPP	- isotactic polypropylene
LCP	- liquid crystalline polymer
LCST	- lower critical solution temperature
LDPE	- low density polyethylene
LLDPE	- linear low density polyethylene
LS	- light scattering
MA	- maleic anhydride
MAA	- methacrylic acid
MABS	- methacrylonitrile butadiene styrene copolymer

MFI	- melt flow index
MMA	- methyl methacrylate
NBR	- nitrile-butadiene rubber
NMR	- nuclear magnetic resonance spectroscopy
NR	- natural rubber
OM	- optical microscopy
PA	- polyamide
PAI	- polyamide imide
PALS	- positron annihilation lifetime spectroscopy
PA-mXD6	- PA of m-xylylene diamine and adipic acid
PAN	- polyacrylonitrile
PAr	- polyarylate
PB	- polybutadiene
PBA	- poly(1,4-butylene adipate)
PBMA	- poly (butyl methacrylate)
PBP	- poly(butylene phthalate)
PBT	- polybutylene terephthalate
PC	- bis-phenol A polycarbonate
PCDS	- Poly(1,4-cyclohexane-dimethylene succinate)
PCL	- polycaprolactone
PCT	- poly(cyclohexanedimethanol terephthalate)
PDMS	- polydimethylsiloxane
PE	- polyethylene
PEA	- poly(ethyl acrylate)
PE-AA	- ethylene-acrylic acid copolymer
PEE	- poly(ester-ether) segmented block copolymers
PEEK	- polyether ether ketone
PEG	- polyethylene glycol (also PEO)
PEI	- polyetherimide
PEK	- poly(ether ketone)
PE-MA	- ethylene-methacrylic acid copolymer
P-E-P	- propylene-ethylene-propylene block copolymer
PES	- poly(ether sulfone)
PET	- polyethylene terephthalate
PETG	- poly(ethylene-co-1,4-cyclohexylene dimethylene terephthalate)

PHB	- polyhydrogenated butadiene
PHBV	- poly(hydroxybutyrate-co-valerate)
PHV	- poly(hydroxy valerate)
PI	- polyisoprene
PIB	- polyisobutylene
PIP	- polyisopropylene
PLA	- polylactic acid
PLS	- polymer layered silicate
PMMA	- poly(methyl methacrylate)
PO	- polyolefin
POM	- polyoxymethylene
POM	- polarising optical microscopy
PP	- polypropylene
PPE	- polyphenylene ether
PPE	- poly(2,6-dimethyl-1,4-phenylene ether)
PPG	- poly(propylene glycol)
PP-g-MA	- polypropylene grafted with maleic anhydride
PPO	- polyphenylene oxide
PPS	- polyphenylene sulfide
PPTA	- poly(p-phenylene terephthalamide)
PPVL	- polypivalolactone
PS	- polystyrene
PSF	- polysulfone
PTFE	- polytetrafluoroethylene
PTM	- photon tunneling microscopy
PTT	- polytrimethylene terephthalate
PU	- polyurethane
PVA	- polyvinyl acetate
PVAI	- polyvinyl alcohol
PVC	- poly(vinyl chloride)
PVDF	- poly(vinylidene fluoride)
PVF	- poly(vinyl fluoride)
PVME	- polyvinylmethylether
PVP	- poly-(2-vinylpyridine)
rcp	- random copolymer
RIPS	- reaction induced phase separation

SALLS	-	small angle laser light scattering
SALS	-	small angle light scattering
SAN	-	styrene-acrylonitrile copolymer
SANS	-	small angle neutron scattering
SAXS	-	small angle X-ray scattering
SB	-	styrene-butadiene copolymer
SBS	-	styrene-butadiene-styrene
SCMFT	-	self consistent mean field theory
SEBS	-	styrene-(ethylene/butylene)-styrene copolymer
SEC	-	size exclusion chromatography
SEM	-	scanning electron microscopy
SI	-	styrene-isoprene copolymer
SIS	-	styrene-isoprene-styrene terpolymer
sPP	-	syndiotactic polypropylene
sPS	-	syndiotactic polystyrene
SSSP	-	solid state shear pulverisation
STEM	-	scanning transmission electron microscopy
TAIC	-	triallyl isocyanurate
TBAB	-	tetrabutylammonium bromide
TEM	-	transmission electron microscopy
TGA	-	thermogravimetric analysis
TMDSC	-	temperature modulated differential scanning calorimetry
TPE	-	thermoplastic elastomer
TPP	-	triphenyl phosphate
TPU	-	thermoplastic urethane
TPV	-	thermoplastic vulcanizates
TTT	-	time-temperature-transformation
UCST	-	upper critical solution temperature
UD	-	unidirectional
UTM	-	universal testing machine
UV	-	ultraviolet
VLDPE	-	very low density polyethylene
WAXD	-	wide angle X-ray diffraction
WAXS	-	wide Angle X-Ray Scattering