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Nomenclature

Parameters

σ	Stress or strength
ϵ	Strain
T_m	Melting temperature
T_{on}	Onset melting temperature
H_m	Heat of fusion
H_c	Heat of crystallization
χ_c	Degree of crystallinity
T_{con}	Onset crystallization temperature
T_c	Peak crystallization temperature
ΔS_c	Entropy of crystallization
H_c	Crystallization enthalpy
T_{on}	Onset temperature for thermal degradation
T_{max}	Temperature at which maximum weight loss %
ϕ_f	Volume fraction
ρ	Density
W_i	Weight fraction of i th material
R_T	Ratio between the tensile strength of filler to matrix
G	Constant
ν	Poisson's ratio
B	Constant depending on adhesion at the filler-matrix interface
σ_i	Tensile strength of the i th material
E_i	Young's modulus or tensile modulus of the i th material
ϵ_i	Elongation at break of the i th material
R_m	ratio of the filler modulus to the matrix modulus
ξ	Adhesion parameter as per the Sato-Furukawa model
α	Shape factor as per the modified Guth model
k	parameter depending on filler geometry as per the Nielsen model

Abbreviations

HDPE	High density polyethylene
PP	Polypropylene
MAPE	Maleic anhydride grafted polyethylene
LS	Lime sludge
CF	Coir fibre
SA	Stearic acid
SC	Stearic acid coated
FTIR	Fourier transformed infrared spectroscopy
XRD	X-ray diffraction
DSC	Differential scanning calorimetry
TGA	Thermo-gravimetric analysis
ICP-OES	Inductively coupled plasma optical emission spectrometry
SEM	Scanning electron microscopy
WA	Water absorption
TS	Tensile strength
TM	Tensile modulus
EB	Elongation at break
FS	Flexural strength
FM	Flexural modulus
IS	Izod impact strength
RTS	Relative tensile strength
RTM	Relative tensile modulus
REB	Relative elongation at break