COMPOSITES PART B: ENGINEERING
An International Journal

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DESCRIPTION

Composites Part B: Engineering publishes impactful research of high quality on composite materials, supported by fundamental mechanics and materials science and engineering approaches. Targeted research may cover a range of length scales from nano, over micro and meso to full product/structure level, with a focus on Engineering embracing high performance applications spanning from low volume/high cost to high volume/low cost composite development.

The Journal aims to provide a forum for the prompt publication of original and high quality research, with emphasis on design, development, modelling, validation and manufacturing of engineering details and concepts. Basic research papers are welcomed as well as proposals for review articles. Authors are encouraged to address challenges across application areas, such as (but not limited to) aerospace, automotive and other surface transportation, energy (renewable applications encouraged), infrastructure, off-shore, maritime, health care technology, and recreational products.

Current topics of key interest to the readers of the Journal include all aspects related to manufacturing, design, validation, characterisation/testing, performance, application and sustainability of composite materials, and including functional and smart composite materials, novel composite material concepts, and also biomimetics and bio-based composites.

AUDIENCE

Materials Scientists, Aeronautical, Structural & Mechanical Engineers, Stress Analysts.

IMPACT FACTOR

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INTRODUCTION

Composites Part B: Engineering publishes impactful research of high quality on composite materials, supported by fundamental mechanics and materials science and engineering approaches. Targeted research may cover a range of length scales from nano, over micro and meso to full product/structure level, with a focus on Engineering embracing high performance applications spanning from low volume/high cost to high volume/low cost composite development.

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Current topics of key interest to the readers of the Journal include all aspects related to manufacturing, design, validation, characterisation/testing, performance, application and sustainability of composite materials, and including functional and smart composite materials, novel composite material concepts, and also biomimetics and bio-based composites.

The focus research areas of the journal include but are not limited to:

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List of keywords
The keywords for Composites Parts A and B are separated into five categories:

A. Material
Aramid fibre
Carbon fibre
Carbon-carbon composites (CCCs)
Ceramic fibre
Ceramic-matrix composites (CMCs)
Discontinuous reinforcement
Fabrics/textiles
Fibres
Foams
Glass fibres
Glasses
Honeycomb
Hybrid
Intermetallics
Lamina/ply
Laminates
Layered structures
Metal-matrix composites (MMCs)
Moulding compounds
Nano-structures
Particle-reinforcement
Plates
Polymer (textile) fibre
Polymer-matrix composites (PMCs)
Preform
Prepreg
Recycling
Resins
Smart materials
Strand
Tape
Thermoplastic resin
Thermosetting resin
Thin films
Tow
3-Dimensional reinforcement
Wood
Yarn

B. Property
Adhesion
Anisotropy
Buckling
Chemical properties
Corrosion
Cure
Debonding
Defects
Delamination
Directional orientation
Elasticity
Electrical properties
Embrittlement
Environmental degradation
Fatigue
Fibre/matrix bond
Fracture
Fracture toughness
Fragmentation
Hardness
High-temperature properties
Impact behaviour
Interface/interphase
Internal friction/damping
Magnetic properties
Mechanical properties
Microstructures
Optical properties/techniques
Physical properties
Plastic deformation
Porosity
Residual/internal stress
Rheological properties
Strength
Stress concentrations
Stress relaxation
Stress transfer
Surface properties
Thermal properties
Thermomechanical
Transverse cracking
Vibration
Wear
Wettability

C. Analysis

Analytical modelling
Computational modelling
Damage mechanics
Finite element analysis (FEA)
Laminate mechanics
Micro-mechanics
Numerical analysis
Statistical properties/methods

D. Testing
Acoustic emission
Chemical analysis
Electron microscopy
Fractography
Mechanical testing
Non-destructive testing
Optical microscopy
Physical methods of analysis
Process monitoring
Radiography
Surface analysis
Thermal analysis
Ultrasonics

E. Manufacturing / Processing

Assembly
Autoclave
Automation
Braiding
Casting
Chemical vapour deposition (CVD)
Compression moulding
Consolidation
Cure
Cutting
Extrusion
Fibre conversion processes
Filament winding
Forging
Forming
Heat treatment
Injection moulding
Isostatic processing
Joints/joining
Knitting
Lay-up (manual/automated)
Liquid metal infiltration
Machining
Melt-spinning
Moulding compounds
Powder processing
Preform
Prepreg
Pultrusion
Recycling
Resin film infiltration (RFI)
Resin flow
Resin transfer moulding (RTM)
Sintering
Slip casting
Stitching
Surface treatments
Tape
Thermal analysis
Thermoplastic resin
Thermosetting resin
Tooling
Tow
Weaving