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

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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:

- High performance fibre reinforced composite materials for aerospace and other high-end applications;
- High-volume/low-cost composites for automotive, wind turbine, gas and energy storage, infrastructure, marine and off-shore applications;
- Design, modelling, characterisation, validation, and manufacturing of composite materials and structure assemblies including load-response, failure, performance and manufacturing process evaluation;
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- Advanced cement-based composite materials (geopolymer, ultra-high performance concrete and light-weight concrete) with a focus on engineering and emphasis on development and validation of innovative material and design solutions.

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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
Creep
Cure behaviour
Damage tolerance
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