

RESEARCH EXPERTISE

USQ FACULTY OF ENGINEERING & SURVEYING

CENTRE OF EXCELLENCE IN ENGINEERED FIBRE COMPOSITES

The University of Southern Queensland hosts the Centre of Excellence in Engineered Fibre Composites which has an international reputation for pioneering research and development for the application of fibre composite structures in civil infrastructure.



CENTRE OF EXCELLENCE IN
ENGINEERED FIBRE COMPOSITES

The Centre has close collaborative arrangements with many government, industry, and private organisations including roads and environmental agencies, polymer and composites agencies, and chemicals and engineering construction industries.

USQ FoES is a leading provider of engineering and surveying programs in Australia and overseas. The Faculty's teaching is supported by a solid foundation of research and scholarship with an annual research revenue of more than \$4 million.

In addition to the development of new fibre composite materials, components and structures, the CEEFC excels in research and development for the rehabilitation of existing wooden and concrete structures.

Successful projects undertaken by the Centre include:

- Fibre composite bridge design
- Pile rehabilitation technology
- Modular fibre composite truss design
- Hybrid bridge beam design
- Railway sleeper design

The Centre is supported by highly trained technical staff and is well equipped with modern laboratories and computational resources necessary for research and development in these areas.



Potential PhD and Masters candidates with an interest in any of the following areas are invited.

- Structural design with composite materials
- Numerical analysis of composite structures
- Materials development and polymer chemistry
- Structural optimisation, testing and analysis
- Structural rehabilitation technologies



• T 07 4631 2525
• F 07 4631 2526
• E foesilu@usq.edu.au
• W www.usq.edu.au/engsurv
• CRICOS QLD 00244B NSW 02225M

USQ UNIVERSITY OF
SOUTHERN QUEENSLAND
fulfilling lives

STRUCTURAL AND POLYMER TESTING SERVICES AT USQ



CENTRE OF EXCELLENCE IN
ENGINEERED FIBRE COMPOSITES

The Centre of Excellence in Engineered Fibre Composites (CEEFC) through its structural and polymer testing facilities offers a suite of comprehensive testing services and consultancy to industry.

Structural Testing Services (STS)

STS tests according to Australian and New Zealand Standards (AS/NZS), American Standards (ASTM), International Standards (ISO) and MIL-17 norms.

COMPOSITE MATERIALS TESTING

Tensile, Flexure, Compression, Shear, Marine Survey packages for the boating industry

LOAD TESTING

500 kN Static and Dynamic load capacity

ADHESIVES

Lap Shear, Tensile, Peel and Bond testing

SANDWICH PANEL CONSTRUCTIONS

Tensile, Bending, Density and Impact Resistance

NEAT RESIN TESTING

Tensile, Compression, Flexural, Water Absorption, Barcol Hardness

STRAIN GAUGING CAPABILITIES

Data Acquisition Systems, On Site Capabilities

MATERIAL CHARACTERISATION

Lloyds and DNV Type Certification Testing

TIMBER AND LVL TESTING

Tensile, Compression and Flexural Testing

METALLIC COMPONENT TESTING

Tensile, Compression, Flexural, Shear and Fatigue Testing.

CUSTOMISED TEST PACKAGES

MECHANICAL AND STRUCTURAL TESTING

Contact: Wayne Crowell

T (07) 4631 1333 | E crowellw@usq.edu.au



Polymer Testing Services (PTS)

Research and Testing Facility in Polymers and Composites

R & D IN BIOCOMPOSITES

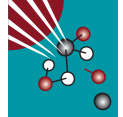
- Use of Natural Fibres
- Epoxidized Vegetable Oils
- Use of Renewable materials
- Synthesis of novel resins

RESIN ANALYSIS AND TESTING

- Degree of Curing (%)
- Heat Distortion Temperature HDT
- Glass Transition Temperature T_g
- Gel-Time
- Spectroscopic Analysis (FTIR GC/MS)

STS and PTS clients include:

- Marine and Boating Industry
- Resin and Fibre Glass Manufacturers
- Aircraft Industry
- Defence Forces
- Various International Companies



TESTING AND CONSULTATION SERVICE IN POLYMERS

Contact: Dr Francisco Cardona

T (07) 4631 5516 | E cardona@usq.edu.au

08-143 USQ GRAPHICS



T 07 4631 2548
F 07 4631 2110
E ceefc@usq.edu.au
W www.usq.edu.au/ceefc

USQ UNIVERSITY OF
SOUTHERN QUEENSLAND
fulfilling lives