

# Product development and testing

## TIMBER AND OTHER MATERIALS

The Centre for Sustainable Architecture with Wood (CSAW) provides product development, digital manufacturing, and testing services for timber and other materials in Launceston and Hobart.

CSAW's team of architects, engineers, industrial designers, and technical specialists can work with companies and businesses to test their products or develop innovative timber construction materials and component combinations and then test the results at our Launceston or Hobart facilities.

### Product development

In association with the University of Tasmania School of Architecture and Design, and Engineering, our product development services include:

- Concept development.
- Application and performance planning.
- Modelling and prototyping.
- Testing and measurements.
- Appraisals and analysis.
- Production development and technology transfer.

### Digital manufacturing

- Free-form machining, and model and mould making.
- The application of virtual and augmented reality in manufacturing processes.

### Timber testing

For timber, wood and composite products, our testing services to the relevant standards include:

- Visual grading.
- Structural performance of small clear samples.
- In-grade structural performance of board, plywood, LVL and other EWP products.
- Material characterisation, such as density, moisture content, hardness, and slope of grain.
- Adhesion testing.
- Drying and grade quality assessment.
- Connector and fastener performance.

### Other product testing

For other products, our testing services to the relevant standards include:

- Strength, stiffness and shear capacity testing.
- Compression and tensile testing.

### More information

To discuss your project, contact:

Phone **1300 041 766**,  
email [info.csaw@utas.edu.au](mailto:info.csaw@utas.edu.au) or visit  
[utas.edu.au/research/institutes-and-centres/csaw](https://utas.edu.au/research/institutes-and-centres/csaw)



## Available equipment suite

### Product development workshop space

Flexible workshop areas, with associated computer labs and machine rooms are available for CSAW staff to prototype and assess new products with company personnel.

L

H

### Thermal performance test cells

Three 6000 x 6000 mm test cell buildings with temperature and humidity control and embedded thermal performance sensors.

L

### Five axis router

This is 5 axis CNC flatbed router with a 2100 x 5000 mm bed and 250 mm working depth that can shape and cut a range of engineered wood and other products.

L

### Kuka robot

This is 6 axis KR120 robotic arm with a 120 kg capacity, a working area of 2700 x 1350 x 750 mm, and a range of spindle and plastic extruder heads. It is fully programmable.

L

### Test rig for 3 and 4 point bending and shear

Three and four point test rigs are used to determine the strength, stiffness and shear capacity of individual boards, industrial beams, mass timber elements and composite buildings systems.

L

H

Rigs up to 6000 mm in length are available in Launceston and Hobart.

### Universal testing machines Universal testing machines

(UTMs) are used to determine the mechanical properties of relatively small-scale specimens for bending, compression, tension, hardness, shear and withdrawal.

L

H

They can test a range of materials and construction components such as mechanical fasteners and connections.

A 100 kN UTM is available in Launceston, and 1000, 100 and 50 kN UTMs are available in Hobart.

### Compressive testing Machine

These machines are used to determine the compressive and bearing strength of samples.

H

### Abrasion test machine

This equipment is used to determine the abrasion performance of materials and coatings.

L

### Industrial oven, scales, and other measurement equipment.

This equipment is used to accurately determine the density and moisture content of timber and other materials.

L

#### Legend

■ Available in Launceston ■ Available in Hobart