

Ready to hit the
road with CANZ?



P2

We're being
recognised globally
for our recycling



P3

Drones . . .
the bees knees?



P7





COMPOSITES DAY TOUR
bus provided



CANZ ANNUAL CONFERENCE

15 OCT
2026

Hit the road with CANZ members
for a day of site visits.
See advanced materials, latest
industry training, custom
construction.

Discuss processes, production,
manufacturing and more!

AUCKLAND, NEW ZEALAND

GET INFO



caroline@composites.org.nz
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We're being recognised for recycling

'With materials specialty comes materials responsibility'

By Catherine Taiapa
CANZ President

I hope this issue of Flexi finds you well and work is flowing.

I've had a busy few months representing CANZ with invitations to present on our work towards composites reuse and recycling in India and New Zealand. It is good to have confirmed that this area of effort is getting noticed and CANZ is being recognised for the expertise we have developed in this area. With materials specialty comes materials responsibility and with this we can showcase our members solutions!

Key updates:

CANZ Member Visits – It has been my privilege to visit CANZ members at their premises in the past few months. I am hoping to continue around as time allows. It is a great opportunity to ask direct questions and explore areas of mutual interest to gauge how CANZ can best support members. Thank you to all those who have hosted me so far. Calendar wrangling is a real thing – but those who we couldn't quite make it work in person – online is great too!

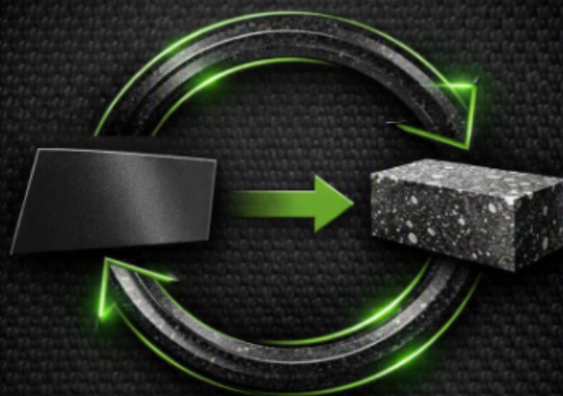
CANZ Conference – October 2026 – You've all asked for a new approach to conference – so this year we take a completely practical day tour of Auckland-based companies contributing to the NZ composites sector. Join the bus, have some fun and tour factories you would otherwise not see! Got suggestions? - contact CANZ Executive Secretary Caroline Gibson (caroline@composites.org.nz).

CANZ Code of Practice – Worksafe has been in touch to let us know they have renewed work on supporting industry associations to develop codes of practice. The previous code is now some years old and has been on the to-do list for some time. We have had an initial meeting and requested examples of guidance documents that have been accepted. Thankfully the expectation is for short practical guidance that focuses on the things that really matter to our industry rather than lengthy documents, or repeating other publications. We are looking for supporting expertise to assist with this project. Please get in contact if this is you.

New Website – Member Spotlights – CANZ have engaged expertise to help members create content for the new website. Lean in to this opportunity! Arrange a quick call with Rich to gather background and find a few supporting photographs – you could have a professional write up of recent projects to share to others from the CANZ platform – contact Rich Little (rich@threesides.co.nz).

Flexi Magazine – We are always looking for fresh voices on topics that relate to composites. You don't need to be a writer – we can help with that! Thinking of advertising? Free support to design your advert is available – contact Flexi editor Graeme Stilwell (imagineprint@xtra.co.nz).. ■

RECYCLING SUCCESS



Turning Composite Waste Into New Value



INTRODUCING AQUAGUARD® X The Next Generation Pool Gelcoats manufactured in Australia

allnex Composites is a leading producer of Unsaturated Polyesters, Gelcoats and Vinyl Esters for a wide range of Composite applications.

Aquaguard® swimming pool gelcoats have shown proven performance in composite pool constructions in demanding Australian and New Zealand outdoor pool water service conditions for over 25 years.

NEW AQUAGUARD® X ENHANCEMENTS

- Lower Styrene Content
- Improved storage stability
- Improved air release properties
- Improved crack resistance properties
- Improved UV resistance/weathering properties
- Improved chlorine resistance

ENHANCED PROPERTIES

Increased
Tensile
Elongation

Improved toughness
and crack resistance

Increased
Chemical
Resistance

Improved resistance
to chlorine bleaching

Increased UV
Resistance

Reduced
discolouration on
outdoor exposure

For more product information, please contact your allnex Sales Representative, call our Customer Service Team on 0800 803 001 or visit www.allnex.com





An audience in India

By Catherine Taiapa
(catherine.taiapa@armatec.co.nz)

CANZ was invited to present to an International Symposium on Advancements in Composites, Specialty Fibres and Chemicals on June 5 to 6 2026 in Ahmedabad. I presented our work to date and the audience proved interested in the practical New Zealand examples of reuse and recycling initiatives for the theme Future Focus and Sustainability. This has since lead to a follow-up meeting to discuss potential collaborations with ATIRA a leading centre for composites research.

Massey University has also invited Mark Battley and myself to present at the Wind Turbine Blade End of Life workshop to be held in Albany. This is an excellent opportunity to highlight the work undertaken over the past seven years and the ongoing and long lasting value of composites. CANZ is being recognised for the ongoing effort in this area.

Looking forward, to further assist the wider public and other sectors to understand the properties and opportunities for composites when their initial use is complete, the committee is exploring ideas for guides and technical support documents. For example, simple reuse guidance: what to do when composite materials reach the end of their original life, identifying pathways to engineering expertise where material assessment is required.

We would love to hear what you would find useful – please get in touch with any suggestions.

... leads to a valuable follow-up meeting



UnWaste initiative gains momentum

The UnWaste working group continues to bring together manufacturers, recyclers, researchers, waste specialists and end users across sectors to accelerate solutions for end-of-life composite materials in New Zealand. The group has met monthly this year and is now concentrating on short, mid, long-term project planning to enable the framing for setting up product stewardship organisation in New Zealand. The UnWaste initiative remains an open, collaborative effort aimed at turning today's and yesterday's composite waste challenge into tomorrow's opportunity. Keen to contribute? Get in touch! ■

FOR SALE – Robotic Fibreglass Spraying Cell

Where robotics meets composite craftsmanship...

Available for relocation from late December 2026 onwards

- Kawasaki 6-Axis D-Series Robot
With 7th axis turntable also available
- Dual Servo Chopper Guns
- Tex Veil & Structural Tex Spray
- PVA Binder & Graco Resin Pump
- Omron PLC Touchscreen
- Footprint: 6m x 6m x 4.5m

This unit is now surplus to our requirements. Purchasing price would be way of monetary offers in consideration of the relocation process. Preference would be on the purchaser assisting with its removal – the more they do, the less the cost.

If someone only wanted certain parts then that can also be discussed. CONTACT GLEN SPINK, as below.



UV curing — A bigger future in composites?

Just as indicated in the photo at left, Ultraviolet (UV) energy curing has been used in many different applications and is growing significantly in its use in composites.

The extremely rapid cure, seconds not minutes, leads to high productivity and throughput.

To achieve good physical properties (tensile, modulus, and chemical/solvent resistance etc), we need to achieve high molecular weight.

"Normal" application methods require low viscosity for flow, fibre wetting and air release.

Unlike the chemical process to cure our resins, the reaction between an initiator and a promoter, typically used to create the free radicals required, UV uses photo initiators that are activated by the UV light to develop the free radicals.

Not only do we see faster cure, but there are also other significant benefits such as

- Better cure offering low levels of residual styrene.
- Very low levels of emission, if any.
- Can be used "on site".
- Easier transportation as there is no class 5 required.
- Better wet out of reinforcements.

This article is just an introduction to UV cure, so look forward to the next Flexi publication where we will discuss the UV technology further.

Glenn Campbell
Campbell Composites and Consulting

Some truths regarding vinyl esters

Lengthening the working time

Do you want to extend the gel time for a vinyl ester when catalysing with MEKP?

Then the addition of 2,4 Pentanedione (Acetylacetone (2,4P)), will help you achieve a longer gel time and a longer working time.

If you were to use Derakane 411 vinyl ester using 1% MEKP and 0.2% of cobalt 6% with 0.1% DMA as an accelerator, you may achieve a gel time of 15 minutes.

Now, if you add 0.05% Acetylacetone (2,4 P) the gel time will extend to 28 minutes, almost double. The addition rates for the AAP can range between 0.05 to 0.30 % based on the resin weight.

Please note that Acetylacetone does not extend the gel time in unsaturated polyesters and instead can act as a promoter thus shortening the gel time.

Helping the storage

For maximum shelf life, vinyl esters should be supplied in white drums and kept cool, preferably out of sunlight and below 25°C.

Because inhibitors used in vinyl esters work by reacting with oxygen to prevent cross-linking, periodic replenishing of the dissolved oxygen will extend the resin's shelf life.

The recommended way to replenish the dissolved oxygen is by stirring the resin in the drums with both the bung and vent caps removed, using an air-powered drum mixer. Another possible method is to bubble a small amount of clean, dry air into the drums using a dip pip, preferably one not made with alloys containing zinc or copper, as these may change the reactivity of the resin.

Any steps to extend the shelf life must be taken before the resin starts to gel.

Glenn Campbell
Campbell Composites and Consulting

Safety stickers available for members



A large range of safety stickers (samples above) are available for members to purchase from CANZ.

50mm x 50mm \$2.00 plus GST each.
100mm x 100mm \$3.00 plus GST each.
150mm x 150mm \$4.00 plus GST each (Acetone and MEKP only).

Contact Caroline Gibson at caroline@composites.org.nz if you wish to place an order.



A natural step forward for composite panels

Sustainable composites often involve a compromise between environmental performance and structural capability. Yet for many non-structural applications, maximum strength is not the primary requirement. Low weight, insulation, rapid installation and design flexibility can be just as important. This thinking inspired New Zealand materials company Rubisco to collaborate with Gurit on a sustainable composite sandwich panel.

The panel combines three complementary technologies: Gurit's recycled PET structural foam core and AMPRO BIO epoxy resin, along with Rubisco's BioTEX hemp reinforcement fabric. Depending on its configuration, it can contain up to 100% recycled or bio-based material content. Its thickness, dimensions and reinforcement architecture can also be adapted to suit different performance and design requirements.

At the centre is Gurit PET, a lightweight structural core manufactured from up to 100% post-consumer recycled material. Laminated on either side are BioTEX hemp skins bonded with AMPRO BIO, which contains up to 43% bio-carbon from plant-derived feedstocks. Together, these materials provide stiffness, low weight, thermal and acoustic insulation, and a distinctive natural finish.

The concept offers potential across marine and transport interiors, architecture, furniture, exhibitions and retail environments. In applications traditionally reliant on plywood or MDF, lightweight PET



Like carbon fibre, woven hemp has an immediately recognisable texture, but with a warmer, more natural character. Rather than hiding the material beneath a decorative surface, designers can make it a central feature.

sandwich panels may reduce weight considerably while providing strong insulation and practical performance.

Perhaps most significantly, the collaboration demonstrates how material sustainability can become part of a product's visual identity. Like carbon fibre, woven hemp has an immediately recognisable texture, but with a warmer, more natural character. Rather than hiding the material beneath a decorative surface, designers can make it a central feature.

The Gurit and Rubisco panel points towards a future in which composites are lighter, more configurable and lower-impact, while offering designers an entirely new aesthetic language. ■



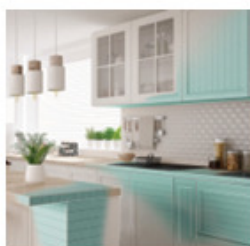
RECYCLED PET STRUCTURAL FOAM

Made from up to 100% recycled materials, Gurit PET saves up to 75% of the weight of traditional panels.

Other benefits include:

- > Low water absorption (<2%)
- > Good compressive strength & stiffness
- > Low resin uptake
- > Sustainability in your supply chain
- > Excellent machining and easy processing
- > Good thermal and acoustic insulation properties
- > Withstands high processing

Contact us to learn more: www.gurit.com/pet/





Drones — the bees knees?

CANZ Business Adviser

Vineeth Babu

looks at the role of quality systems
in drone manufacturing.



A perspective for the NZ composites industry

In advanced drone manufacturing, composite materials such as carbon fibre reinforced polymers, hybrid laminates, and increasingly thermoplastic composites, are well established as the backbone of lightweight airframe design. For members of the composites community in New Zealand, the key challenge is no longer whether these materials can deliver the required performance, but how reliably that performance can be reproduced at scale in manufacturing environments where variability is increasing and certification expectations are becoming more stringent.

In this context, the quality system becomes the critical enabler of composite performance. It is the mechanism that ensures that the design intent defined by laminate schedules, structural analysis, and material allowable is faithfully translated into repeatable, airworthy hardware. Without a mature quality system, even well-designed composite structures can suffer from variability that undermines strength, stiffness, fatigue life, and damage tolerance.

One of the most important functions of a composite manufacturing quality system is control of material pedigree. Prepreg systems, dry fibre reinforcements, resin systems, and ancillary materials such as films and adhesives all carry process-sensitive properties. Out-life control, storage conditions, resin advancement, and contamination risks must be tightly managed. In smaller or emerging aerospace supply chains, which is often relevant in New Zealand, this discipline is particularly important because material variability can quickly become a dominant source of structural inconsistency.

Process control is equally critical. Composite manufacturing is inherently sensitive to small deviations in layup accuracy, fibre orientation, compaction quality, vacuum integrity, and cure cycle adherence. A robust quality system ensures that these variables are not left to operator judgement alone but are governed through controlled work instructions, calibrated tooling, validated processes, and documented training competency. In drone structures, where weight optimisation often leads to minimal safety margins, small process deviations can have disproportionate structural consequences.

Cure control is a particularly important area. Autoclave and oven cure cycles must be tightly monitored for temperature

uniformity, ramp rates, dwell times, and pressure stability. Deviations that appear minor in process logs can lead to significant changes in resin content, void formation, or interlaminar properties. A strong quality system ensures these parameters are not only recorded but actively analysed for trends that may indicate process drift.

Inspection and verification systems provide another essential layer. Non-destructive inspection techniques such as ultrasonic C-scan, thermography, and shearography are widely used, but their effectiveness depends on how they are integrated into the broader quality framework. In mature systems, inspection is not treated as a final gate only. Instead, it is part of a feedback loop that links defect data back to process conditions and material batches. This allows root cause analysis rather than simple defect detection.

Traceability is increasingly important in modern drone programmes. Every structural component should be traceable back to its raw materials, manufacturing conditions, and inspection history. This is not just a regulatory requirement in aerospace environments; it is also a key enabler of continuous improvement. When anomalies occur, traceability allows engineers to isolate whether the issue originates from material variability, process drift, tooling condition, or human factors.

For the composites industry in New Zealand, where production volumes may be lower but technical expectations remain high, a mature quality system can be a competitive advantage. It allows smaller manufacturers to participate in global supply chains by demonstrating process capability, repeatability, and compliance with aerospace expectations. It also supports scaling from prototype drone development to production without loss of structural consistency.

Ultimately, in composite drone manufacturing, performance is not determined solely by material selection or structural design. It is determined by the effectiveness of the quality system that governs how those designs are realised in physical form. A strong quality system transforms composite capability from theoretical performance into reliable, repeatable, and certifiable aerospace hardware. ■



Join US

There are many ways CANZ can help you.

Here's just a few . . .

1 Connect

Build relationships across the NZ composites industry.

2 Stay Ahead

Access the latest materials, tech, and global trends.

3 Learn and Grow

Access to training, education, and expert-led conferences.

4 Be Represented

A strong, unified voice with government and regulators.

5 Shape the Industry

Join working groups, research, and standards development.

6 Get Practical Support

Real-world advice, resources, and peer expertise.

Scan to
connect
to our
website



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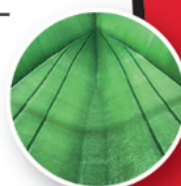
**Your Trusted Partner
in Composite Solutions**

✓ **Premium Composite Resins & Gelcoats**
Reliable performance, excellent weather resistance, perfect finishes for marine, pool, and industrial use.

✓ **Custom Colour & Pigment Matching**
Precise, repeatable colour solutions tailored to your brand. Fast turnaround on custom colours.

✓ **High-Quality Fibreglass Reinforcements**
Chopped strand mat, woven fabrics, stitched reinforcements — engineered for maximum strength and durability.

✓ **Expert Technical Support**
Hands-on advice, problem-solving, and design guidance to keep your production running smoothly.



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