

INNOVATION IN COMPOSITE MANUFACTURE

FINALIST: Williams Jet Tenders

Williams Jet Tenders, the world's leading jet tender specialist, has developed an innovative silicone bagging infusion process that transforms high-volume composite boat production. Traditional vacuum infusion uses single-use plastic bags, generating substantial waste. Williams' in-house developed reusable silicone bags can be used over 800 times, reducing plastic waste by 95% and lowering non-recyclable workshop waste from 107K in 2023 to 84K in 2024. This technology now covers 70.5% of production, making Williams the UK's largest producer of infusion silicone-bagged composite boats for international markets.

The innovation addresses key industry needs. By optimising resin systems and curing processes in collaboration with material chemists, the process improves fibre-to-resin ratios and produces tenders up to 20% lighter. Lighter vessels improve manoeuvrability, fuel efficiency, and speed, while reduced finishing times for custom-coloured models (65–75% faster) enable bespoke superyacht tenders without impacting production. Yacht builders benefit from consistent high-quality outputs and environmentally responsible products, meeting growing demand for eco-conscious vessels.

The project required specialist skills and planning. Implementation involved dedicated vacuum stations, quality gates, tooling adjustments, and in-house training to ensure consistent production at scale. Williams partnered with leading suppliers, including Llewellyn Ryland (gelcoat), Scott Bader (resins and adhesives), INEOS (infusion resins), Cristex (fibres), GRP Solutions (Metyx fibres), and MarineShift360 (carbon footprint assessment, to optimise materials, processes, and sustainability outcomes).

Market potential is significant. The process enables higher production volumes while maintaining performance, supporting superyacht builders with larger, lighter tenders suitable for weight-restricted cranes and swim platforms. It also extends to Williams' sister brand, Evane Tenders, enhancing responsible luxury marine offerings.

By combining environmental responsibility, process efficiency, and superior product performance, Williams' silicone bagging infusion process sets a benchmark for sustainable, high-volume composite manufacturing in the marine industry.

Learn more at: www.williamsjettenders.com

