

# Case Study

## C-Quip International Swim Ladders Manufactured With ACG's Prepregs



C-Quip has used ACG's prepregs to their full potential on their unique line of marine equipment. Benefits such as corrosion resistance, weight reduction and the superior structural integrity contribute to C-Quip's elegant, aesthetically-pleasing systems, which blend into the overall style of today's superyachts.

With help from ACG, traditional aluminium structures have been replaced with stylish, robust carbon alternatives.

### Company:

Based in Auckland - New Zealand, C-Quip International Ltd. manufactures deck equipment, including passerelles, boarding stairs, cranes/davits, light masts, boat booms, tender fenders, swim ladders/stairs for superyachts.

### Objective:

To manufacture a wide range of modular, lightweight swim ladders which exhibit high strength and stiffness characteristics, using prepregs that provide:

- Excellent surface finish
- No reworking following demoulding
- Ease of material handling at ambient temperature, together with good tack and drape characteristics

### Production Process:

Vacuum bag and autoclave processed in heated female moulds using ACG's MTM<sup>®</sup>57 carbon fabric (CF0302 42% resin weight) and high strength unidirectional carbon fibres (150g/m<sup>2</sup>).

### Prepreg Features:

ACG MTM<sup>®</sup>57 Series resins are toughened, 80 to 120°C curing, epoxy matrices offering flexible processing.

These resins can be supplied on a range of reinforcements and are available in standard prepreg and ACG ZPREG<sup>®</sup> partially impregnated formats.

MTM57 Series resins exhibit excellent toughness and, after a suitable cure, can be used at temperatures up to 90°C.

### Improvements Gained:

MTM<sup>®</sup>57 carbon fabric and unidirectional prepregs provided the requisite level of tack for laminating in complex mould tooling, and provided an excellent surface finish straight from the mould.

C-Quip affirms that one of the advantages of using ACG's products is the diversity of fibre and resin systems available, which have allowed its engineers to design marine products that provide optimum functionality.

With ACG's ongoing support, C-Quip continues to push the boundaries of application potential for composites in the marine market.

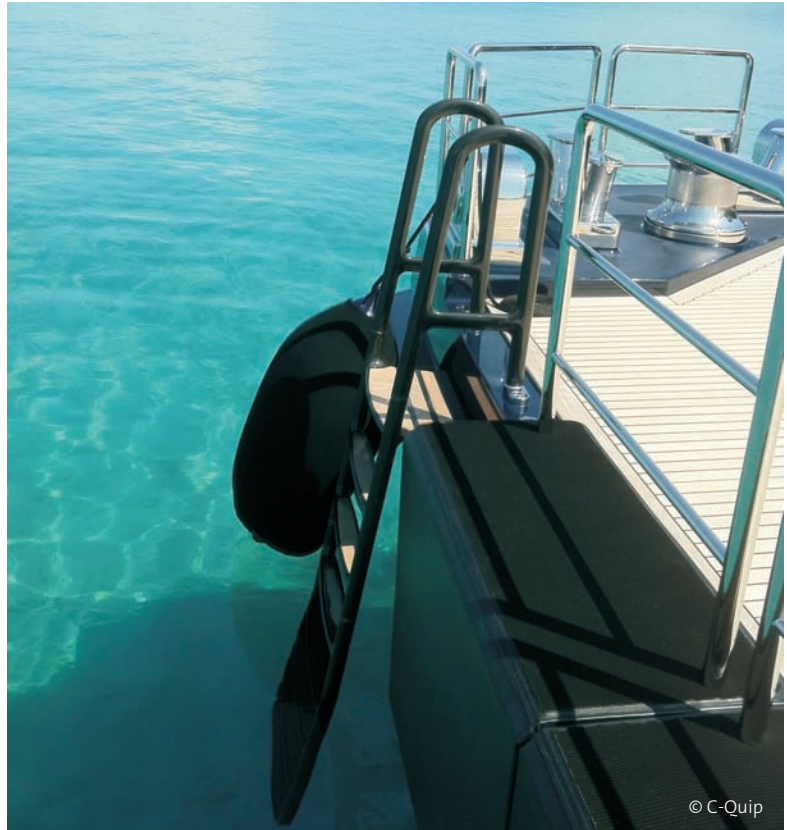
The logo for C-QUIP, featuring the brand name in a bold, italicized, sans-serif font.

### MTM<sup>®</sup>57 Prepreg:

- Versatile processing: autoclave, vacuum bag and press moulding
- 30 days out life
- 12 months freezer storage life
- Flexible curing capability: 80 to 120°C
- Service temperature up to 90°C
- MTM57 intermediate viscosity and tack is suitable for full impregnation of light and medium weight unidirectional and fabric reinforcements

### MTM<sup>®</sup>57 Series Variants:

- MTM57B: black pigmented
- MTM57FR: flame retarded
- MTM57FRB: black pigmented variant of MTM57FR
- MTM57-2 modified tack for reduced temperature sensitivity and improved handling
- MTM57-3 reduced temperature sensitivity and controlled tack for sided impregnation and film infusion
- MTM57-3B: black pigmented variant of MTM57-3



For further information about C-Quip, please visit:  
[www.cquip.com](http://www.cquip.com)

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