



Large Autoclaves, used in the production of our composite components

Delivering tailored, **Composite Solutions** for our customers

Our composite design, tooling and component manufacturing service is recognised and respected worldwide. We operate under strict total quality management processes and our long standing collaboration with OEM customers and advanced materials supply partners ensures we maintain our lead position in the composites industry.

Composites are an effective alternative to conventional & traditional materials and ideal as a low volume production solution for all clients. Consumers are increasingly demanding greater product differentiation and our composites service allows us to meet this need. The market for composite materials in automotive, aerospace, defence and leisure applications has therefore never been stronger. With an increasing range of both structural & non-structural hybrid & natural materials, visual quality colours & finishes on offer from ARRK, the possibilities are endless.

Our competence includes consultation, concept evaluation and product development right through to the production of tools and components.

Consultation

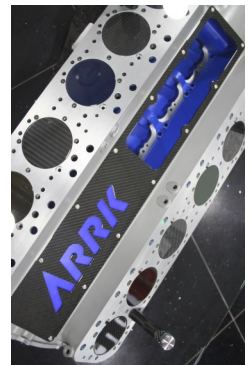
- Concept analysis and assessment
- Material and process qualification
- Development of methods for material qualification
- Manufacturing technology and materials
- Design strategy
- Evaluation of CAE & simulation results

Concept & Product Development

- Analysis and design of composite components and products
- Design and simulation of structures and components
- Increasing the level of integration by the use of fibre composite materials
- Definition of material specifications and manufacturing technologies
- Assistance with material parameter determination and transfer to material cards
- Thermo-mechanical analysis
- Optimization analysis and safety strategies

Production Support

- Production & process documentation (laser projection data, laminate books, etc.)
- Aerodynamic and thermal optimisation of manufacturing processes
- Optimisation of handling & production systems (lightweight construction & functional integration)



Composite Production & Assembly



Automotive Components



Composite Tooling:

Production to CAD data with Gauge R&R activity.

- Pattern and Moulds
- Tooling Validation
- Inspection Fixtures
- Assembly Jigs



Large scale CNC Machining

Composites processing:

Specialist, niche, tailored service providing low volume quantities for a variety of industries.

Markets we serve:

- Automotive
- Aerospace
- Sport & Leisure
- Film & TV Special Effects
- Medical & Scientific
- Defence & Security
- Marine & Transportation



Some of the technologies & processes we employ include:

- Large scale CNC Machining
- In-house paint shop suitable for large jobs - 8.1m long, 2.5m tall x 4m wide
- Prototype & LVM Production Tooling & Blow Mould Tools
- Composite Lay Up pre-preg & BMI
- LRTM epoxy resin system
- Two water cooled Scholz autoclaves:
 - 5m long x 2.1m diameter, temp 200c, pressure 14 bar
 - 2.2m long x 1.8m diameter, temp 175c, pressure 20 bar
- Full on/off site system / logistic control allowing for real time monitoring
- Live cure control traceability for automotive and aerospace requirements



Kit Cut / Nest Scanning room



Large in-house paint shop

For more information, please contact:

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COMPOSITES & MANUFACTURING SOLUTIONS