

DELIVERING IMPROVED PERFORMANCE WITH POLYKETONE COMPOSITE PARTS

LEADING-EDGE PART SOLUTIONS FOR COMMERCIAL AEROSPACE

TxV Aerospace Composites, part of Victrex plc, manufactures polyketone composite parts and assemblies for commercial aerospace applications. We combine world-class expertise in materials and manufacturing to deliver composite parts at the pace, rate and scale needed by the industry. Our part offering includes custom laminates and inserts, finished composite parts, and complete over-molded hybrid composite components and assemblies.

TXV CAPABILITIES

- TxV is an established Center of Excellence for composite part design and manufacturing
- Leveraging contributions from its founding members, TxV offers Polyketone material and processing expertise
- ▲ Within an **APQP framework**, TxV offers best-in-class design & development, qualification support, and commercial manufacturing in one location
- ▲ Focused on delivering weight and cost savings on an accelerated timeline

BENEFITS OF OVERMOLDED POLYKETONE COMPOSITES







Design freedom



Weight savings



Part count consolidation



Process optimization



Customized properties

IDENTIFY APPLICATION

PART CONCEPT & DESIGN

TOOL DESIGN & BUILD

FIRST ARTICLE MANUFACTURING

DESIGN & PROCESS VALIDATION

SERIAL PRODUCTION



Design & economic feasibility assessment



Thermoplastic part design



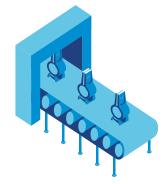
Modeling & analysis (design for manufacture)



Process development & part testing



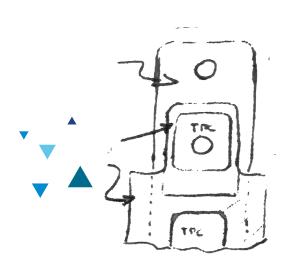
Performance confirmation & transition to production



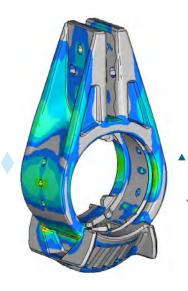
Aerospace-quality automated production

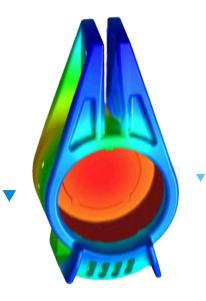
COLLABORATIVE AIRCRAFT COMPOSITE DESIGN

Enhance the design and boost the efficiency of new composite components and the redesign of existing parts with polyketone (PAEK) composites from TxV. Our aircraft composite design includes a stage-gated development process that de-risks your project and accelerates your timeline – giving you a competitive edge.











DESIGN FEASIBILITY

Initial assessment of how well a composite design is expected to deliver against application requirements and project objectives.

DIGITAL MODELING

Initial creation of a digital twin is used to represent the composite part design and provide confirmation that requirements have been understood.

OPTIMIZATION

Analytical tools are used to optimize the part design to meet the application demands and see how design choices impact results.

PROCESS SIMULATION

Advanced simulation tools are used to see how design choices impact manufacturability.

PROTOTYPING

First parts are produced to verify manufacturability and validate part performance.

COMMERCIAL PRODUCTION

APQP framework, production quality tooling, and automated equipment allows for a seamless transition to commercial production.

OPTIMIZED FOR MANUFACTURE

PURPOSE-BUILT MANUFACTURING

INNOVATIVE COMPOSITE MANUFACTURING

TxV combines its engineering and manufacturing expertise with the strength and proven performance of fiber reinforced polyketone polymers. We use our innovative capabilities to deliver parts at rate, meet application demands while reducing weight and cost.



AUTOMATED TAPE LAYING

High production speed

Near-net-shapes produced with variable thickness

Tailored properties available from multi-material and width tapes



CONSOLIDATION

Custom high-rate production cell

Precision controls ensures aerospace quality laminates

Meets or exceeds OEM control and rate requirements



FORMING

Proprietary stamp forming cell

Rapid conversion of laminates to finished part geometries

Automation drives repeatable and consistent part production



CUTTING & MACHINING

High speed water-jet cutting

Multi-axis machining



INJECTION MOLDING

Enables the manufacturing of hybrid overmolded composite parts

Optimized for manufacturing with VICTREX™ PEEK polymer

AEROSPACE QUALITY

TxV Aero Composites has received AS9100 certification for our quality management system. Meeting the requirements of these globally adopted benchmarks demonstrates a commitment to producing composite parts of the highest quality for the commercial aerospace industry.



START YOUR PROJECT TODAY!

TxV Aero Composites

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