GEAR INNOVATION FROM EVERY ANGLE
HIGH-PERFORMANCE POLYMER GEARS MADE WITH VICTREX HPG™ POLYMERS
PEEK GEAR SOLUTIONS
BEYOND METAL PERFORMANCE

Across all industry sectors, there is an increased need for high-performing, high-precision gears that work reliably even in the most demanding applications. Solutions require improved reliability, reduced noise, vibration, harshness (NVH) and greater efficiency while following the trend for smaller packaging sizes, additional design freedom and lower overall system costs compared to precision metal gears. VICTREX™ PEEK polymer solutions – including the VICTREX HPG™ (High-Performance Gear) product family – have increasingly become a viable alternative where traditional metal components have been specified but no longer meet customer needs.

Victrex Gear Solutions include high-precision gear design, prototyping, testing and manufacturing capabilities using VICTREX HPG™ polymers that help our customers gain a competitive advantage while focusing on their core strength.

FROM MATERIAL TECHNOLOGY TO GEAR MANUFACTURING

By working with Victrex you will not only benefit from unparalleled PEEK expertise but also enjoy a fast 360° development process from initial concept to mass production of state-of-the-art gears that help improve performance and drive cost out while accelerating overall time-to-market.
INTEGRATED GEAR SOLUTIONS
FROM CONCEPTION TO PRODUCTION

Polymer-specific design approach
developed over 35 years
to leverage advantages
of thermoplastic gear characteristics

Custom and commercial
analysis packages
to predict polymer gear performance

System level approach
gear design to make the system work, not just the gear

IT’S TIME TO
RETHINK METAL GEARS

Partner with Victrex for your next gear project. Our team has the passion backed by a proven track record of over 35 years in the polymer and gear industry, to provide you with a 360° tailored expert support.

Compared to metal gears, VICTREX HPG™ polymers enable a range of benefits:

- Precise and repeatable manufacturing ensures net shape components with tight tolerances
- Improved NVH performance up to 50% reduced NVH (noise, vibration, harshness)
- Lower energy consumption due to a weight saving of up to 70%
- Reduced part cost no secondary machining, hardening, or finishing operations
- Vibration isolating properties enables lifetime increase for components throughout the gear train
- Improved responsiveness from up to 80% reduced moment of inertia
- Reliable performance through low friction and wear, corrosion resistance and reduced need for lubrication
- Possibility of hybrid technology with overmoulded inserts of metal, composites or other plastics
- Lower cost for mass production due to economical one-step injection-moulding manufacturing process

DESIGN AND ANALYSIS

Integrated prototyping services
to quickly and cost-effectively reflect production intent and accelerate overall time to market

Ability to produce a wide range of polymer and/or metal prototypes using various processes

On-site component testing
to validate design and evaluate gear mesh performance

PROTOTYPING AND TESTING

On-site tool shop
including micro-moulding for streamlined product qualification

On-site injection moulding
to enable precise and fully automated high-volume production

On-site Quality Control lab
to verify net shape and in-spec parts

MANUFACTURING AND QUALITY
Victrex is an innovative world leader in high-performance polymer solutions with products sold under the brand names of VICTREX™ PEEK, APTIV™ film and VICTREX Pipes™. With production facilities in the UK and USA backed by sales and distribution centers serving more than 40 countries worldwide, our global sales and technical support services work hand-in-hand with OEMs, designers and processors offering assistance in the areas of processing, design and application development to help them achieve new levels of cost savings, quality, and performance.

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www.victrex.com