



TRANSFORMING POWER INTO MOTION

With VICTREX HPG™ PEEK polymer solutions
for gears in e-bikes

With the e-bike market growing fast, e-bike motors need to be more powerful yet smaller for longer range and better customer experience, without compromising on reliability, weight and system cost. Increased torque requirements usually result in more noise and vibration, hence NVH often becomes a challenge.

Our high-performance thermoplastic VICTREX HPG PEEK Gear Technology can address these challenges and improve electric drive unit performance in e-bike motors and provide a cost efficient solution.

TYPICAL BENEFITS OF VICTREX HPG PEEK GEARS



Robustness /
Durability*



Compactness*



Lower NVH when
compared to metals



Higher Power
Density*

*relative to technical polymers

QUIET AND POWERFUL

VICTREX HPG GEARS IN E-BIKE MOTORS

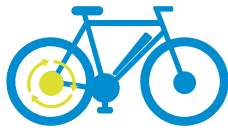
To develop a compact low-noise drive unit PEEK has been identified to optimise gear acoustics while providing increased torque relative to typically used polymers



MID-DRIVE MOTOR



FRONT HUB MOTOR



REAR HUB MOTOR



IMPROVING YOUR ELECTRIC DRIVE UNIT PERFORMANCE

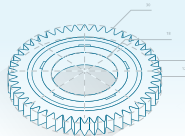
- ▶ Higher power density enables a smaller package size in combination with the higher wear and temperature resistance of VICTREX HPG gears relative to conventional (technical) polymer gearing
- ▶ VICTREX HPG thermoplastic PEEK gears have a lower modulus when compared to metal gears, leading to even smoother operation, less vibration and noise

STREAMLINED PRODUCT DEVELOPMENT THROUGH FULLY INTEGRATED APPROACH

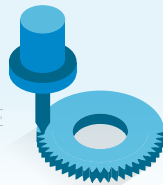
Through all stages from your original idea to the mass production of your gear, we have the proprietary capabilities and expertise to support your project and accelerate your time to market.



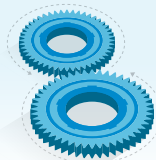
MATERIAL EXPERTISE



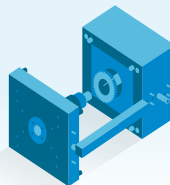
GEAR DESIGN



PROTOTYPING



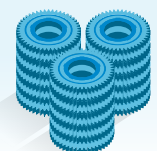
TESTING



TOOLING



INSPECTION



MANUFACTURING

If you're looking to optimise acoustics and improve power output in a smaller packaging space, then visit victrex.com/gears for more information or contact our dedicated gears team directly: gears@victrex.com

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