

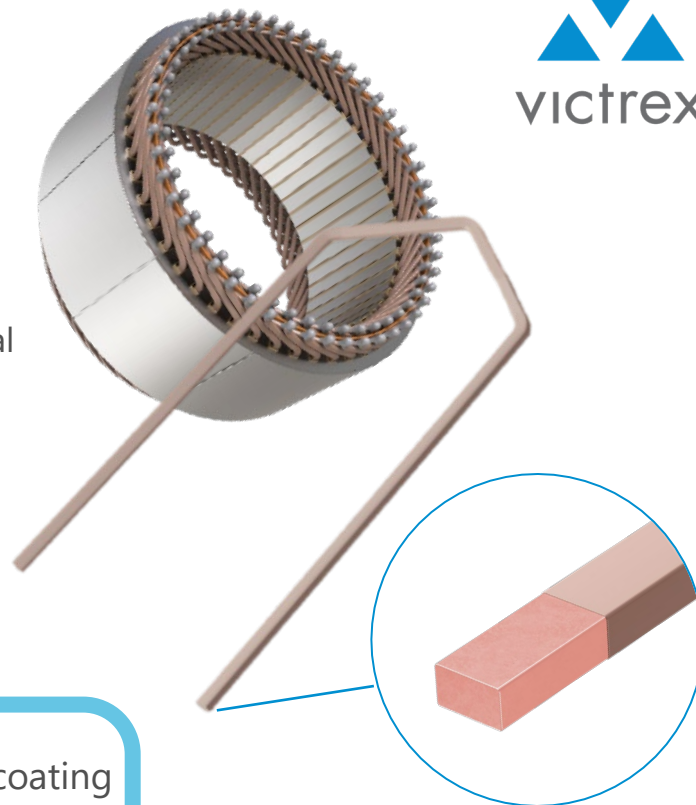
# High-performance electrical insulation for 800V e-motors

E-machines need to cope with extreme temperatures, difficult chemical environments and higher voltages. Moving to faster switching SiC or GaN technology adds further constraints as the higher rate voltage change degrades insulation layers quicker over time. Insulation materials also must be suitable for effective, state-of-the-art high-volume manufacturing processes.

## BENEFITS

VICTREX XPI™ PEEK polymer used in magnet wire extrusion coating offers multiple benefits over traditional enamel insulation:

- Higher partial discharge inception voltage (PDIV)
- Excellent resistance to a wide range of chemicals including ATFs
- Ductility allowing tighter bending radii while retaining mechanical strength
- Solvent-free process with a recyclable material
- Increased thermal efficiency and power density, reduced energy losses, smaller packaging space
- Victrex partner network to accelerate development time



**GO TO  
E-MOTOR SOLUTIONS  
SPECIAL SITE**



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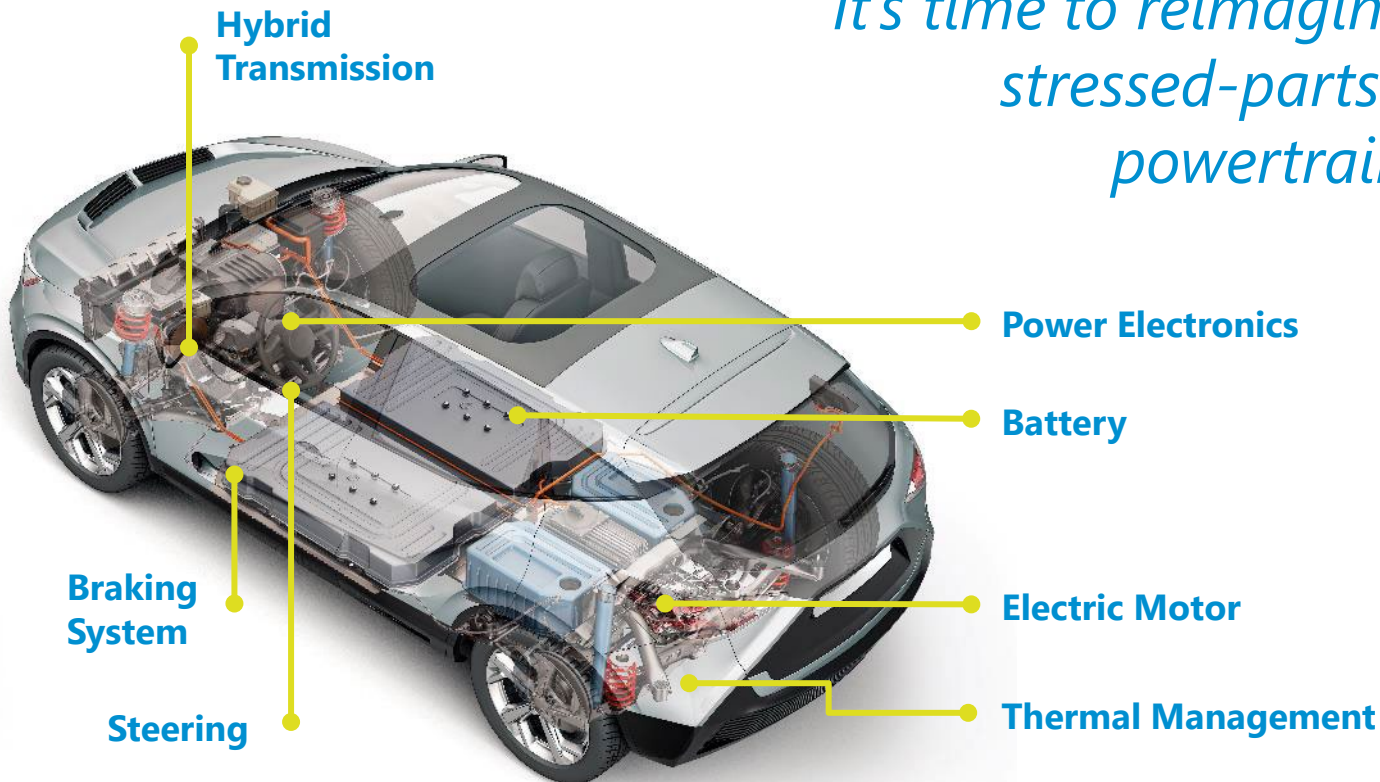




VICTREX™ PEEK SOLUTIONS FOR AUTOMOTIVE

# Let us help you drive real change.

*It's time to reimagine the limits for stressed-parts in automotive powertrains and chassis.*



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**Heat, electricity, chemicals, wear, stress –**

the demands on parts and components inside automotive powertrains and chassis are **multiple and complex.**

A proven track record of VICTREX PEEK solutions in demanding applications in **braking systems, engines, transmissions and steering** have made Victrex polymers, forms and parts the material of choice for countless customers around the world.

**PEEK polymer's multi-faceted material performance**

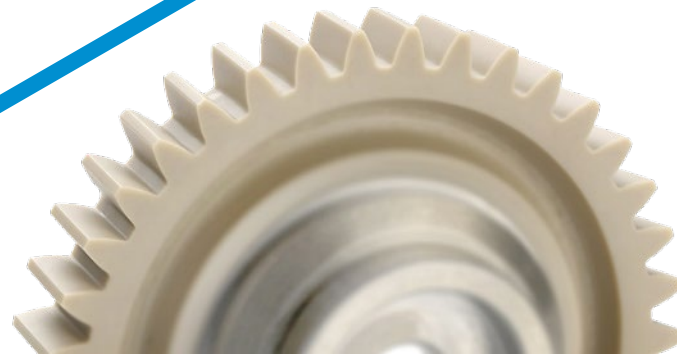
addresses issues such as light-weighting, durability, efficiency and thermal management which helped automotive manufacturers for more than 40 years push their industry forward.

Let us help you lead the shift to e-mobility.

**Let's make change.**



**VIEW  
PROPERTIES  
& BENEFITS**





# Multiple properties. Multiple benefits.

A unique combination of VICTREX™ PEEK properties for demanding automotive applications



## EXTREME TEMPERATURE RESISTANCE

Stable operation from -40°C up to 250°C\*\*

## THERMAL CONDUCTIVITY

Around 2x the thermal conductivity of other super engineering polymers (e.g. PI)



## ELECTRICAL PERFORMANCE

Proven dielectric properties (breakdown voltage, PDIV resistance, resistivity, permittivity, low loss etc.)



## CHEMICAL RESISTANCE

Outstanding resistance to chemical attack from a wide range of materials including ATFs and dielectric fluids



## MECHANICAL STRENGTH

Wide range of product grades with excellent strength, stiffness and ductility properties



## WATER ABSORPTION

Low levels of moisture absorption combined with excellent hydrolysis resistance



There's more at  
[victrex.com/Automotive](http://victrex.com/Automotive)

