DELRIN® CASE STUDY

Delrin® – for e-bikes

Bikers Enjoy the Ride Longer with Delrin® e-bike Gears

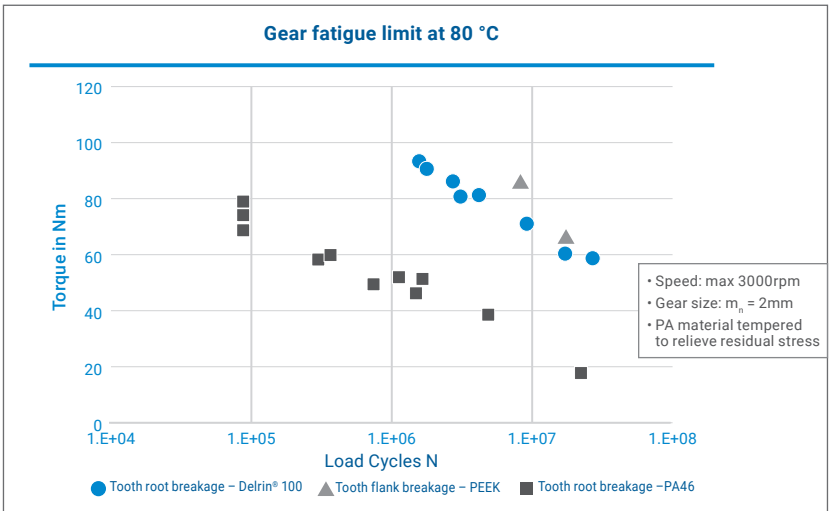
An e-bike motor manufacturer replaced metal gears with Delrin® to reduce system weight and noise generation.



What did the customer gain from Delrin®

- Lightweighting for greater maneuverability
- Quieter operation – NVH optimization to meet customer requirements
- High strength gear teeth to transfer torque loads and maximize output power
- Performance even at raised temperatures – service conditions up to 100°C
- Excellent wear resistance for continued operation – gears tested at range of speeds
- Enhanced productivity through injection molding and highly accurate part dimensions
- Lower cost components (versus metal, PEEK, etc.)

Delrin® 100 gears are shown to match the performance of PEEK at 80°C and to greatly exceed the service life of unreinforced PA46 across all torque levels



*Comparison of the load-carrying capacity of steel-polymer gear pairings for different polymers**

*Hasl, C.: Zur Zahnfußtraglfähigkeit von Kunstoffstirnrädern, Dissertation, Technische Universtät München (2019.) (engl.: tooth root load carrying capacity of polymer spur gears)

Delrin – Engineering the Future, Together

To learn more, contact your Delrin representative or visit **Delrin.com**.

Delrin® is an industry-leading premium industrial polymer business. Grounded in strong innovation, Delrin is a category creator with a longstanding reputation for quality, reliability, supply and product performance. The iconic Delrin brand, coupled with proprietary technology and deep application expertise, make us a leader in the high-end engineering polymer market. Delrin has exciting growth prospects from exposure to automation, actuation, healthcare, mobility and consumer applications.

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