



FLUOROCARBON

CASE STUDY

FLUOROGLIDE® BEARINGS KEEP FORMULA 1 WIND TUNNEL ON TRACK



THE CHALLENGE

We were approached by a global leader involved in motorsport infrastructure, who was designing a state-of-the-art wind tunnel for Formula 1 car testing. Their goal: to simulate real-world racing conditions with precision, efficiency, and reliability.

Central to the design was a 60% scale model of an F1 car, suspended from the ceiling and positioned above a high-speed rolling track that mimics the movement of a real circuit. Massive industrial fans generate controlled airflow through the tunnel, allowing engineers to monitor aerodynamic performance without ever hitting the track.

They required a PTFE Slide Bearing solution that could not only outperform the previous setup but also deliver greater durability and cost efficiency over time.

THE SOLUTION

We recommended Fluoroglide® PTFE Slide Bearings, engineered to deliver ultra-low friction, exceptional load-bearing capacity, and excellent vibration dampening. These bearings were integrated into the tunnel's support and movement systems to accommodate the dynamic loads and micro-movements caused by airflow, equipment operation, and rolling track motion.

Our engineering team worked closely with structural consultants to ensure our solution fit seamlessly within the existing design. Compatibility checks, thermal expansion assessments, and alignment tolerances were all carefully addressed during the planning and installation phases.



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Why choose us?

Behind every exceptional project is a trusted partner who delivers more than just a product. At Fluorocarbon, we combine deep materials science expertise with decades of engineering experience to design and manufacture Fluoroglide® PTFE Slide Bearings that meet the most demanding performance requirements. But our value goes beyond technical excellence.

We collaborate closely with your team to understand your goals, align with your design challenges, and deliver solutions that are tailored, efficient, and built to last.

Whether you're developing a cutting-edge wind tunnel or reinforcing vital infrastructure, we bring innovation, reliability, and long-term value to every project. When precision matters, choose a partner who delivers it.

Contact us today to speak with a technical specialist or schedule a consultation.

THE OUTCOME

The wind tunnel is now fully operational, and our Fluoroglide® Slide Bearings are performing exactly as intended. The tunnel runs smoothly and quietly, offering engineers uninterrupted, high-fidelity aerodynamic data on scale-model F1 cars.

By reducing friction and structural vibration, our bearings helped enhance both the precision of the testing environment and the longevity of the mechanical systems. The client also benefitted from a more economical solution with lower long-term maintenance demands.

This project is a prime example of how high-performance polymer solutions can make a critical difference in advanced engineering applications, especially when speed, accuracy, and innovation are on the line.