



Falex Litigation Technical Investigations Tribology Litigation

Falex Litigation Technical Investigations conducts accident and materials failure analysis investigations for insurers and litigators. Our cases typically involve the performance of materials, materials compatibility, friction and wear, lubrication, the design process, and issues involving installation, maintenance, and adherence to codes and standards. We also have a unique, specialized expertise in tribology, the science of friction, wear, and lubrication.

Numerous areas of litigation are completely or mostly related to tribology, but most litigators probably do not know the term, or that there are experts who specialize in tribology. The easy way to understand the scope of application of tribology is to think of it as encompassing any situation where two surfaces are in relative motion and contacting each other either directly or through a lubricant. This includes brakes, clutches, hard disks, bearings, door latches, artificial joints, transmissions, locks, walking on all types of surfaces, cavitation, erosion due to fluid impingement, and some types of corrosion.

The scope of technologies encompassed by tribology includes materials (metals, plastics, composites, and ceramics), hard coatings, oils, greases, solid lubricants, and fuels. The disciplines that compose the science of tribology include mechanical engineering, metallurgy and materials science, physics, and chemistry, especially physical chemistry.

We do not think of companies this way, but in reality, every automotive company, every aerospace company, every industrial machinery company, and every refinery is in large part a tribology company, and much product liability litigation is in large part tribology litigation. Nonetheless, litigators often seek and hire mechanical engineers and metallurgists, but this perspective misses the multi-disciplinary nature and physical science basis of tribology and these types of litigation issues.

Falex Litigation Technical Investigations has experience with a broad range of materials issues, and a unique core competency in tribology. We are a division of the Falex Corporation, founded more than 90 years ago, the world's most respected company specializing in tribology. Falex equipment and methods are the basis of many ASTM standards, and Falex has been instrumental in developing these standards. Falex operates the premier tribology testing laboratory, offering the broadest range of tests available.

Falex Litigation Technical Investigations employs highly-credentialed, technical experts who conduct technical investigations for insurers and litigators and provide expert witness testimony. The staff of Falex Litigation Technical Investigations includes a



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former CEO of Packer Engineering (which employed more than 100 scientists and engineers who conducted thousands of projects for insurers and litigators), the president of ITC Experts, and the former president and chief scientist of the federally-funded Institute of Tribology and Coatings. Falex Litigation Technical Investigations has full access to Falex's tribology testing laboratory.

For litigators, Falex Litigation Technical Investigations staff members are litigation-tested expert witnesses who are adept at using realistic bench-scale tests that accurately replicate the type of contact (point, line, conformal, etc.), the type of motion (sliding, rolling, unidirectional or oscillatory), the contact pressure, lubrication (if any), and the environmental conditions. Using industry standard test instruments and modified ASTM standards, this approach offers important advantages over solely doing full-scale testing. The test instruments are computer-controlled and highly-instrumented, providing a degree of control and a quality of measurement that is hard to achieve in full-scale tests.

The flexibility of the bench-scale tests allows a wider range of conditions to be measured, and enough replicates to obtain meaningful statistics, estimates, and projections. A limited number of full-scale tests may also be conducted to validate the accuracy of the bench-scale tests, but this is not always necessary because of the highly-developed theory and experience base of bench-scale testing. The bench-scale tests we use are the same ones (or close variants) being used by manufacturers for regulatory and quality control testing of the products that we investigate for litigation purposes. We use data from this testing in our physical science-based investigative approach to provide a level of insight, responsiveness, and low cost not offered elsewhere.

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Falex Litigation Technical Investigations was formed to provide litigators, insurers, and corporate counsel with expert witness consulting and scientific investigations that are informed by core competencies in the physical sciences, materials performance, and tribology - the science of friction, wear, and lubrication - to provide better outcomes at lower cost with intellectual property disputes, product failures, process incidents, accident investigations, and Consumer Product Safety Commission recalls and issues.