



Our failure analysis training and experience includes firearms and their associated safety devices. Our engineering and technical capabilities provide scientific data to assist with firearm accident investigations, product improvements, and design analysis.

We are a federally licensed Class 01 Federal Firearms Licensed (FFL) dealer with the ability to purchase, receive, and ship firearms and ammunition. Professional Analysis employees associated with the analysis and testing of firearms have Illinois issued Firearm Owners Identification cards (FOID), along with several holding Concealed Carry permits.

Professional Analysis is one of a few facilities licensed by the State of California, Department of Justice, to provide independent laboratory testing and certification of all handguns and firearm safety devices that are sold in that state.

Subject and exemplar firearm testing of handguns (semi-automatic and revolver), shotguns, rifles and all safety devices can be conducted. Investigations typically include a complete review of the firearm operation, owners' manuals / literature, standard safety practices, labels and warnings, and project specific considerations. Firearm components, including, but not limited to, bullets and cartridges can be examined and documented with our precision optical microscopes for study, measurement, and comparison of firing pin indentations and other characteristics.

## Services

- Firearm related accident investigation and reconstruction
- California State Department of Justice firearm and safety device testing and certification
- Material (both metals and composite) failure analysis
- Mechanical failure analysis
- Mechanical design review and testing
- Firearm safety and operational studies
- Ammunition performance evaluations
- Operation manual, label and warning review
- Firearm storage and safe testing



## **Practice Area Leaders**

### ***John W. Kidd – Director, Field Services***



Mr. Kidd has over 40 years of accident investigation experience which are focused on field inspections and scene documentation. He has in-depth experience in firearm safety, firearm storage, and operational procedures. His extensive knowledge of the rigorous State of California, Department of Justice standards and guidelines, and firearm documentation are essential to each investigation. He has an Illinois Concealed Carry permit in addition to his FOID card.

### ***Michael G. Koehler, Ph.D. – Senior Scientist, Chemistry***



Dr. Koehler experience includes ballistic grade composites and materials assessments. His areas of experience include tribology, surface degradation, materials failure, and coatings technologies of weapons. His knowledge and experience also includes research and development of ballistic body armor and blast containment systems. He is a participant in our firearms and safety device testing team.

### ***Roch J. Shipley, Ph.D., FASM, P.E. – Principal Engineer, Materials/Metallurgical***



Dr. Shipley performs engineering investigations and failure analysis from a materials engineering perspective. His evaluations involve design, manufacturing, materials, and operational factors. He specializes in complex issues involving multiple disciplines and/or accident reconstruction. He has experience with both ferrous and non-ferrous alloys, including aluminum, titanium, and nickel-base superalloys. Dr. Shipley is licensed by examination as a Professional Engineer and has testified in both State and Federal Courts.

### ***Timothy M. Hicks, P.E. - Senior Engineer, Mechanical***



Mr. Hicks performs investigations and failure analysis from a mechanical engineering perspective. His projects have involved design analysis, product liability, intellectual property, manufacturing, accident investigation and reconstruction, firearm and safe testing. He has an Illinois Concealed Carry permit in addition to his FOID card. Mr. Hicks is licensed by examination as a Professional Engineer.