

Failure Analysis

M+P Labs has the expertise, technology and experience to identify complex failure modes in a wide range of parts, products, and materials. We have established a reputation as both a complete testing laboratory and an industrial materials consultancy.



CAPABILITIES

M+P Labs offers complete physical and chemical analysis capabilities for both metallic and non-metallic materials, as well as extensive imaging analysis techniques. We can quickly determine cause of failure. For metals, our testing services are augmented by extensive metallography and metallurgical evaluation capabilities. When combined with fractography using a state-of-the-art scanning electron microscope, these capabilities can unlock invaluable clues in the investigation. Of critical importance is our powerful electron microprobe, which provides superb resolution for elemental identification and analysis. In addition, our legal and expert witness services include conducting failure analyses and undertaking analytical investigations to support or refute claims of liability.

APPLICATIONS

We are dedicated to a cooperative, analytical approach to materials problem-solving. The accuracy and precision of our results, as well as our meticulous reporting procedures, are second to none. This world-class service allows our clients to make critical decisions based on reliable, accurate information. **When you need answers, turn to M+P Labs – the quality materials testing partner you can trust!**

EXPERIENCE

Our experience with failure analyses covers a broad range of industries and products. Examples of the many failure investigations we've conducted are:

- Corrosion and wear-related failure of seal rings in an electric generator
- Vane cracking in an impeller assembly for aerospace applications
- Cracks in a cast iron casing of a gas turbine compressor
- High-voltage insulation failure
- Contamination of chemical processing operations
- Porosity in electron beam welds
- Rupture of wire mesh hoses used in high-pressure applications
- Bolt failure in a chemical mixer assembly
- Trip failure in electrical relays used in nuclear power plants
- Weld failure leading to highway bridge collapse during construction
- Rotating shaft failure in coal mill equipment
- Ammunition conveyor failure in defense equipment
- Cracking and discoloration of dishwasher heater hardware



All testing is performed in compliance with the quality requirements mandated by:

