

LABORATORY SERVICES

WASHINGTON MILLS



The Washington Mills Laboratory Services Group specializes in analyzing inorganic minerals, ceramic powders and refractories for companies lacking in-house analytical capabilities. Our laboratory is accurate, fast, and competitively priced, and has earned its reputation as a service provider that is highly responsive to customer needs. Our diverse customer base ranges from small private companies and universities to large public corporations and government agencies, including the likes of NASA. We're large enough to do the job right and small enough to turn the work around quickly, keeping your projects on time and moving forward.

ADVANCED CAPABILITY, EXPERT QUALITY

Washington Mills offers a complete laboratory research and testing facility, staffed by a team of chemists and technicians who have years of expertise in determining the chemical and physical properties of a wide variety of materials. Using our advanced laboratory capabilities, we maintain exacting control over chemical composition, purity and crystal structure. Our laboratory delivers the consistent and high-quality data required for your most critical applications. We use the most current methods of analysis and tools, including instrumental, analytical and physical measurements, x-ray diffraction analysis (XRD), and x-ray fluorescence analysis (XRF).

Our instrumentation and equipment is consistently maintained and expertly calibrated to meet the most demanding test method requirements and return results you can trust. Our methods of analysis include those derived from nationally recognized organizations such as ANSI and ASTM, as well as military specifications for testing under government contracts.

Contact our Laboratory Services Group today to learn more about our capabilities and how we can assist you in your material testing needs.

Physical Measurements

- Particle size – Rotap, Coulter, Microtrac, Wet screen
- Bulk density
- Specific gravity
- Magnetism
- Microhardness testing
- Friability

Analytical

- Total, free carbon
- Hydrogen, chlorine
- UV/VIS spectrophotometry
- Moisture
- Loss or gain on ignition
- Sample preparation

Instrumental Analysis

- X-Ray Diffraction analysis
- X-Ray Fluorescence analysis

X-Ray Diffraction Analysis (XRD)

- Automated diffractometer for crystalline phase characterization
- Automatic sample changer capable of scanning 35 samples overnight and conducting peak search
- JCPDS (Joint Committee on Powder Diffraction Standards) database containing 35,000 inorganic and 10,000 organic crystalline compounds for computer-aided phase identification
- Characterization of simple chemical compounds to very complex solid solution materials (alloys) and silicate minerals such as clays, feldspars, micas, etc.
- Positive identification of asbestos in various materials
- Identification of multi-phased specimens containing up to 10 crystalline compounds
- Identification of various polymorphs of many substances (i.e. crystalline SiO₂, quartz, cristobalite, tridymite)
- Quantitative analysis of most crystalline substances, such as the determination of free crystalline silica in many refractory and ceramic materials

X-Ray Fluorescence Analysis (XRF)

- State-of-the-art wavelength dispersive x-ray spectrometer, equipped to determine most elements on the periodic table
- Special x-ray tube and optics to give high sensitivity for light elements while maintaining ppm sensitivity for heavier elements; highly stable electronics allow extremely reproducible analysis — typically 1-2% coefficient of variation
- Automated elemental analysis of a variety of materials, including metal, cement, glass, ceramics, ores, rocks, clays, coal, coke, ash, catalysts, and airborne and deposited dusts
- Qualitative analysis performed on most elements from fluorine to uranium
- Semi-quantitative analysis to estimate the concentration of elements present
- Quantitative analysis to precisely measure specific elements; analysis capability extends from low ppm levels to 100%
- Samples can be prepared for analysis using ground surface, pressed pellet, borate fusion or loose powder techniques

Contact us today for fast, accurate, reliable results and services from Washington Mills' expert Laboratory Services Team.

General Inquiries, Sales and Customer Service

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