

Washington Mills Laboratory Services



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, Competitively priced, and has earned the reputation for being highly responsive to customer needs. Our diverse customer base ranges from large public companies, government agencies like NASA, to smaller private companies and universities. We're large enough to do the job and small enough to turn the work around quickly for you.

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 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, physical measurements, x-ray diffraction analysis, and x-ray fluorescence analysis (XRF).

Our instrumentation and equipment is calibrated at frequent intervals in order to meet the most demanding test method requirements. Our methods of analysis include those derived from nationally recognized organizations such as ANSI, ASTM, and military specifications for testing under government contracts.

Please contact Washington Mills Laboratory Services in order to learn more about how we can assist you in your material testing needs.

WASHINGTON MILLS

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Washington Mills Laboratory Services

Physical Measurements

- Particle size – Rotap, Coulter, Microtrac, Wet screen
- Bulk density
- Specific gravity
- Magnetics
- 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

X-Ray Diffraction Analysis

- 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 SiO_2 , 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, airborne and deposited dusts.
- Samples are prepared for analysis using ground surface, pressed pellet, borate fusion or loose powder techniques.
- 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%.



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