



## Research Materials Engineer | Research Civil Engineer | Research Structural Engineer

Seeking self-motivated teammates who will perform cutting-edge research and engineering projects under the mentorship and guidance of a senior engineer.

Recommended experience and education levels range from entry-level **Bachelor of Science** to mid-career **Master of Science**.

### Duties:

Conducts research and development in the Materials and Structures Branch to address military and civil works infrastructure needs, with a focus on polymeric materials and polymer matrix composites for large infrastructure applications. Contributes to common goals in a team environment. Performs literature searches and market research surveys. Assists in the development and preparation of research proposals, work plans, project budgets, and other project documentation. Plans and conducts laboratory experiments in accordance with applicable safety procedures and utilizing appropriate variable controls, including testing to determine physical properties (such as density) and mechanical properties (such as tensile strength, compressive strength, creep, thermal expansion, impact and abrasion resistance, and coefficient of friction) of polymeric and polymer matrix composite materials. Prepares and conditions test specimens. Sets up and operates materials science instruments, which may include a Scanning Electron Microscope (SEM), X-ray Fluorescence Spectrometer (XRF), Fourier Transform Infrared Spectrometer (FTIR), Thermogravimetric Analyzer (TGA), Dynamic Scanning Calorimeter (DSC), Isothermal Calorimeter, or other similar instruments. Maintains laboratory sample preparation and testing equipment and instrumentation in working order. Collects and analyzes laboratory experiment data. Draws conclusions and documents results. Performs field work such as equipment setup, data collection and analysis, and evaluation of results at military installations and Corps of Engineers sites. Communicates research results orally, in slide format, and in writing. Prepares materials for technical presentations and leads or assists in the writing and review of technical reports, journal articles, and conference papers. Mentors, guides, and delegates tasks to laboratory technicians and student research assistants in a team environment in the laboratory and in the generation of reports and research documentation.

Check out this **example storyboard** to learn more the impact of this role!

**Level/Salary Range: DB2 (Equivalent to GS 5-11).**

**Level placement depends on the candidate's experience, education, and other qualifications.**

**View General Schedule (GS) ranges [here](#).**

