

# Missouri Department of Transportation

Code: R01071

Title: Materials Testing Specialist

Exemption Status: Non-Exempt

Grade: 7

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## Job Description

**Effective Date** 08-01-2023

**Replaces  
(Effective Date)** 07-01-2022

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### General Summary

The materials testing specialist performs advanced technical duties and directs the work activities of others in the sampling, testing, and/or inspection of materials used in highway construction and maintenance projects; responsibilities are performed on location throughout the state and/or at the Central Laboratory. Responsibilities are performed under general supervision.

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### Minimum/Required Qualifications

High School Diploma or GED/HiSET and eight years of experience in technical positions.

OR

Associate's Degree in Civil Engineering Technology or related field and six years of experience in technical positions.

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Bachelor's Degree in Civil Engineering Technology or related field and two years of experience in technical positions.

OSHA 10-Hour Certification required within 90 days.

Successful completion of a work simulation examination and a medical-physical examination.

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### Supervisory Responsibilities

Lead Worker Only

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### Location

Central Office - Construction and Materials

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Job is physically demanding and requires prolonged periods of standing and frequent lifting.

Job requires outdoor and/or laboratory work that involves exposure to physical hazards, health and safety risks, and/or adverse or otherwise undesirable characteristics in the environment, including (but not limited to) exposure to hazardous chemicals, dust, fumes, hot ovens, power tools, and other equipment.

**Special Working  
Conditions/Job  
Characteristics**

Basic math skills, consistent with high school level algebra, will be necessary to perform many of this title's duties.

Job may require occasional, statewide, overnight travel.

Job may require operation of vehicles to plow snow and spread ice control materials.

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**Examples of Work**

- (1) Performs and directs the field and/or laboratory testing of soils, aggregates, cements, bituminous mixtures, new products, or general materials; utilizes computers, electronic systems, and testing equipment for data entry, data collection, analysis, and preparation of laboratory testing reports.
- (2) Reviews test results to ensure that results are within specifications; performs calculations and authorizes test results and reports; maintains present and past data and information on materials.
- (3) Evaluates and tests contractor's proposed asphalt pavement mix designs; performs calculations; and tracks each mix design for accurate job records.
- (4) Assembles, utilizes, and monitors electronic and nuclear equipment for digital data acquisition, reduction, and analysis; and calibrates and maintains specialized testing equipment.
- (5) Performs duties outlined in the quality systems manuals, including completing competency exam evaluations, performing tests on proficiency samples; verifying results, demonstrating test procedures, assists in quality control/quality assurance reference testing.
- (6) Prepares material samples for testing; and maintains and operates various electronic, mechanical, hydraulic, and pneumatic equipment for physical testing of samples.
- (7) Records sampling and/or testing data in various computer software programs; performs special sampling and testing on federal aid projects; and completes tabulations on material summary requirements.
- (8) Conducts training for new employees or contractors on state and federal specifications and testing methods.
- (9) Provides technical supervision of geotechnical field subsurface investigations and prepares a boring plan based on the accessibility and information needed; ensures subsurface investigation is adapted to access constraints and subsurface conditions; reviews plans and layout profiles; conducts boring operations with field crews and obtains soil and rock samples for further testing.
- (10) Performs lead worker responsibilities, which may include providing general instruction, assigning and reviewing work, coaching and training, providing guidance and instruction in the proper and most efficient methods of accomplishing tasks, and providing input to the direct supervisor on staffing decisions and performance management.
- (11) Performs other responsibilities as required or assigned.

**The Missouri Department of Transportation promotes an equal opportunity workplace that includes reasonable accommodation of otherwise disabled applicants and employees. Please see your manager should you have any questions about this policy or these job duties.**