

# Lead Structural Steel Inspector (Nondestructive Testing)

## California State Personnel Board Specification

- **Schematic Code:** GY21
- **Class Code:** 3380
- **Established:** 03/16/1993
- **Revised:** 02/16/2010
- **Title Changed:** --

### Definition

This is the lead worker level of nondestructive inspection work at Caltrans. Under general direction, to lead, direct, and inspect the work of Structural Steel Inspectors (Nondestructive Testing) in the field performing inspections of welded or bolted structural steel by use of nondestructive equipment or other means; and to do other related work.

### Typical Tasks

Performs and monitors the inspection of welded, riveted, and bolted structural steel by using NDT methods such as visual, liquid penetrant, magnetic particle, ultrasonic, radiography, and eddy current; interprets codes, standards, specifications, and procedures; designates the particular nondestructive testing methods, techniques, and procedures to be used; is responsible for nondestructive testing operations and interprets and evaluates results in terms of existing codes, standards, and specifications; establishes techniques and assists in establishing acceptance criteria when none are otherwise available; directs research related to the development of techniques, procedures, and/or nondestructive equipment for existing and next generation material; makes decisions related to defects in structures which in the most serious consequence of error could result in the catastrophic failure of a publicly-traveled transportation structure due to critical flaws that were not properly identified during an inspection; writes reports and documents results of nondestructive testing; works at considerable heights above ground, in close proximity to traffic, and in confined spaces; makes recommendations for specification changes; directs the removal and testing of structural steel samples; reviews plans for the repair of structures and directs the repair work; prepares and reviews inspection reports; assists in training lower-level Structural Steel Inspectors (Nondestructive Testing); assists in the training of engineers and other Caltrans personnel in the areas of nondestructive testing, welding, and other new technologies; performs quality assurance inspections of structural materials at fabrication facilities and/or field sites; prepares written reports and maintains accurate inspection records; performs source inspections at various sites; and completes material reports to include, but not limited to, MR 692s and TL 29s.

### Minimum Qualifications

Possession of a valid and current American Society for Nondestructive Testing (ASNT) Level III certification in either radiography or ultrasonics testing in accordance with the ASNT SNT-TC-1A guidelines, and successful completion of a Federal Highway Administration approved comprehensive bridge inspection training course on Safety Inspection of In-Service Bridges, and Possession of a current Certified Welding Inspector Certification per the most recent American Welding Society QC-1 document, and Two years of experience as a Structural Steel Inspector (Nondestructive Testing), Range B.

### Knowledge and Abilities

Knowledge of: Techniques and processes of structural steel construction and fabrication; materials and processes used in the manufacture of structural steel; testing methods and testing equipment used in the inspection of structural steel and related structural products with reference to ultrasound, radiography, liquid penetrant, and magnetic particle; methods, materials, and equipment used in fusion welding on structural steel; welding defects; hazards involved and the safety precautions required in operating and using radioactive sources and x-ray equipment; current American Society for Testing Materials and American Welding Society standards and tests referring to metal and related structural materials; the basic safety and health regulations

contained in the Title 8 Industrial Relations, General Industry Safety Orders; and the Department's safety and health policies and procedures as contained in the Department's Injury and Illness Prevention Program, and the lead workers' role in maintaining an effective injury and illness prevention program.

Ability to: Direct, monitor, and perform ultrasonic, visual liquid penetrant, and radiographic testing at a journey person's level, including equipment calibration, evaluating results, and interpreting specifications; communicate at a level required for successful job performance; detect discontinuities and defects by the nondestructive testing methods described above; make, process, interpret, and prepare reports and recommendations on nondestructive testing; establish and maintain cooperative relations with those contacted in the course of work; and oversee and train others.

## **Special Personal Characteristics**

Ability to work at considerable heights above the ground, in close proximity to traffic, and in confined spaces; and ability to travel to locations both in State and out of State on reasonable notice for extended periods of time that may include out-of-State locations.

## **Additional Desirable Qualifications**

The equivalent of an Associate's Degree in Nondestructive Testing Technology or Welding Technology.

Updated 6/3/2012