

# Structural Engineer: Principal Structural Engineer

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Analyzes, researches and develops structural engineering specifications involving metals and non-metallic or composite structural materials for product design. Develops specifications for operation of product to include structural, mechanical, hydraulic, electrical, power plant, armament, heating and ventilating equipment and maintenance designs. Analyzes damage tolerance, durability, design allowables and structural modeling. Specific structural engineering specialties may include dynamics and loads, stability and stress fatigue and thermal analysis. Tools utilized may include CATIA, IDEAS, ProEngineer and a variety of software applications.

## **Discretion/Latitude**

Works under consultative direction toward predetermined long-range goals and objectives. Determine and pursue courses of action necessary to obtain desired results. Completed work is reviewed for desired results from a relatively long-term perspective.

## **Knowledge, Skills, & Abilities**

Applies advanced technical principles, theories and concepts. Contributes to the development of new principles and concepts. Identifies, analyzes and develops new business opportunities. Answers unusually complex technical questions regarding products and services, and takes part in putting together proposals, configurations and product offerings.

## **Problem Solving**

Works on unusually complex technical problems and provides solutions that are highly innovative and ingenious.

## **Impact**

Develops technological ideas and guides their development into a final product. Erroneous decisions or recommendations would typically result in failure to achieve critical project objectives. Leads the planning and implementation of large projects/programs. Contributes to department goals and planning efforts.

## **Liason**

Serves as organization spokesperson on projects and/or programs. Acts as advisor to management and customers on advanced technical research studies and applications.

## **Minimum Education and Experience**

12+ years with a BS in designated Engineering or a related field.. Employees usually have an advanced degree in their field of specialization.