

ENGINEERS

Category: Service Businesses

SIC CODE: 8711 Engineering Services

NAICS CODE: 541330 Engineering Services

Suggested ISO General Liability Code: 92663

Suggested Workers Compensation Code: 8601

Description of operations: Engineers use higher mathematics, economics, biological, and physical sciences to design airports, bridges, buildings, harbors, highways, irrigation systems, manufacturing plants, pipelines, products, railroads, and tunnels. The engineer is hired by a client and may conduct research, prepare prototypes, or design specifications to meet the client's requirements. They may test process failures to identify problems and propose solutions. Engineers may specialize in chemical, civil, electrical, industrial, mechanical, or structural design. Related to engineers are the services offered by architects. Often engineering operations have architects on staff or other contractual associations with architectural companies.

Property exposure is primarily that of an office. Ignition sources include electrical wiring, heating and air conditioning systems, wear, and overheating of equipment. The storage of paper reference materials and customers' records may add to the fire load. Storage should be in fireproof file cabinets, and fire suppression systems must not damage the papers. Computers and other electronic equipment may be targets for theft.

Inland marine exposure consists of accounts receivable if the firm offers credit, computers, and valuable papers and records for clients' information, product proposals, prototypes, final specifications, and work in progress. Computers generally have expensive hardware and software designed specifically for engineering applications. Power failure and power surges are potentially severe hazards. Computer systems must have adequate security features to prevent unauthorized access due to industrial espionage or by hackers. Duplicates must be made often and stored off-site. Storage on premises should consist of fireproof cabinets. There may be an off-premises exposure if engineers take tools and equipment to customers' job sites.

Crime exposure is from employee dishonesty, which can be very high as engineers possess unique access to customers' proprietary information. Potential for theft, particularly industrial espionage, is great. Background checks should be conducted on all employees. Monitoring procedures and securing of all records should be enforced to prevent unauthorized access to client information. There must be a separation of duties between persons handling deposits and disbursements and reconciling bank statements. Employee dishonesty issues may arise when an employee is on a client's premises.

Premises liability exposure is limited at the office location. If clients visit the premises, they must be confined to designated areas. To prevent slips, trips, or falls, all areas accessible to the public must be free of obstacles with floor coverings in good condition. The number of exits must be sufficient and well marked, with backup lighting in case of power failure. Parking lots and sidewalks need to be in good repair with snow and ice removed, generally level and free of exposure to slips and falls. Off-site exposures consist of visits to customers' premises and job sites. There should be procedures in place for enforcement of rules regarding off-site conduct by employees.

Professional liability exposure is extensive due to the catastrophic potential for injury and death from an error in design that results in structural or process failure, such as the collapse of an interstate or high-rise. The exposure increases if the firm fails to conduct thorough background checks to verify employees' accreditations, education, and licensing, permit clerical workers to do tasks that only professionals should handle, or if error checking procedures are ignored or are inadequate. All design specifications must be followed and inspections regularly conducted. Documentation must be clear, with changes marked and authorizations signed by both the engineer and the customer. Agreements with clients, including fee arrangements, should be in writing. Customers can suffer financial loss due

to construction delays and cost overruns. Other exposures include allegations of breach of a client's confidentiality or a conflict of interest,

Automobile exposure is from the vehicles used to travel to visit customers and job sites. Generally, the vehicles are private passenger types or pickups. Engineers may use rental cars when proceedings are not local. If vehicles are supplied to employees, there should be written guidelines regarding the personal and permitted use of the vehicle. All drivers must have appropriate licenses and acceptable MVRs. Vehicles must be maintained and records kept in a central location.

Workers compensation exposure is from office operations and off-site visits to customers' premises. Since work at the office is done on computers, potential injuries include eyestrain, neck strain, carpal tunnel syndrome, and similar repetitive motion injuries that can be reduced with ergonomically designed workstations. Off-site exposures may include working at construction sites, at heights, on rough terrain, or in isolated areas. Engineers can be injured off-site by slips and falls, falling objects, falls from heights, electrical panels and wiring, construction machinery, flying debris, noise, foreign objects in the eye, assault, and automobile or aviation accidents. Protective equipment may be required.

Coverages to consider but not limited to:

Business Personal Property, Accounts Receivable, Computers, Valuable Papers and Records, Employee Dishonesty, General Liability, Employee Benefits, Professional, Umbrella/Excess, Hired and Nonownership Auto, Workers Compensation, Building, Business Income and Extra Expense, Earthquake, Equipment Breakdown, Flood, Leasehold Interest, Legal Liability, Special Floater, Computer Fraud, Forgery, Cyber Liability, Employment-related Practices, Business Auto Liability and Physical Damage, Stop Gap Liability, Commercial Crime