Professional Indemnity Consulting Engineers

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Below are examples from several of the sectors within the Engineerring Profession, along with claims examples which outline the importance of holding suitable Professional Indemnity insurance

There are many variations of engineering disciplines, and many engineering practices will encompass more than one discipline:

Structural Engineering

Structural engineering is the science and art of designing and making buildings, bridges and frameworks or structures so that they can resist the forces to which they may be subjected.

The role of a structural engineer today involves a significant understanding of both static and dynamic loading, and the structures that are available to resist them. The complexity of modern structures often requires a great deal of creativity from the engineer in order to ensure the structures support and resist the loads they are subjected to. A structural engineer will typically have a four- or five-year undergraduate degree, followed by a minimum of three years of professional practice before being considered fully qualified.

Structural engineers are licensed or accredited by different learned societies and regulatory bodies around the world (for example, the Institution of Structural Engineers in the UK). Depending on the degree course they have studied and/ or the jurisdiction they are seeking licensure in, they may be accredited (or licensed) as structural engineers only, or as civil engineers, or as both civil and structural engineers.

Geotechnical Engineering (soil and foundation work)

Geotechnical engineering is the branch of civil engineering concerned with the engineering behaviour of earth materials. Geotechnical engineering is important civil engineering, but is also used by, military, mining and petroleum or any other engineering concerned with construction on or in the ground. Geotechnical engineering uses principles of soil mechanics and rock mechanics to investigate subsurface conditions and materials; determine the relevant physical / mechanical and chemical properties of these materials; evaluate stability of natural slopes and man-made soil deposits; assess risks posed by site conditions; design earthworks and structure foundations; and monitor site conditions, earthwork and foundation construction.

The potential for consequential loss has produced some of the largest paid claims in this class.

Electrical Engineers

Electrical engineers design new products, write performance requirements and develop maintenance schedules. The usual functions in electrical engineering include research and

development, planning, designing, construction, operating and maintaining a variety of electrical apparatus and systems. They also test equipment, solve operating problems and estimate the time and cost of projects.

Mechanical Engineering

This engineering discipline involves mechanical design, energy conversion, fuel and combustion technologies, heat transfer, materials, noise control and acoustics, manufacturing processes, rail transportation, automatic control, product safety and reliability, solar energy, and technological impacts on society. They study the behaviour of materials when forces are applied to them, such as the motion of solids, liquids and gases, and the heating and cooling of objects and machines. Using these basic building blocks, engineers design space vehicles, computers, power plants, intelligence machines and robots, automobiles, trains, airplanes, furnaces

and air conditioners.

Mechanical engineers work on jet engine design, submarines, hot air balloons, textiles and new materials, medical and hospital equipment, refrigerators and other home appliances. Anything that is mechanical or must interact with another machine or a human being is within the broad scope of the mechanical engineer. The work of mechanical engineers varies by industry and function.

Large numbers of mechanical engineers do research, test and design work, while

others work in maintenance, technical sales and production operations. High technology companies seek mechanical engineering graduates for product design applications such as plastic enclosures, thermal analysis and electro-mechanical.

Civil Engineering

Civil engineers are involved in all aspects of the design and supervision of the construction of roads, drainage, airports, tunnels, bridges, water supply and sewage systems. They employ the latest concepts in computer-aided design (CAD), construction project scheduling and cost control.

Civil engineers are problem solvers, meeting the challenges posed by pollution,

deteriorating infrastructure, traffic congestion, energy requirements, natural hazards, urban development and community planning. Each project needs to be custom designed, and qualifications and experience are essential

to the success of a contract.

Heating, Ventilation and Air-Conditioning Engineering (HVAC)

This refers to technology of indoor and automotive environmental comfort. HVAC system design is a major sub-discipline

of mechanical engineering, based on the principles of thermodynamics, fluid mechanics and heat transfer. HVAC is important in the design of medium-to-large industrial and office buildings and in temperature-sensitive areas such as computer server storage rooms, operating theatres and food storage units.

Coverage - What should be included

Ideally cover should be arranged on a civil liability basis cover, which automatically provides cover for claims arising from:

- Professional negligence
- Breach of contract
- Dishonesty
- Loss of documents
- Libel and slander
- Breach of intellectual property rights
- Breach of confidentiality
- Collateral warranties – claims arising from these are explicitly covered with no limit on assignments.

Claims Examples

Insurance is purchased for peace of mind and the quality of the claims handling service.

This is particularly evident in the engineering sectors where an understanding of the industry is vital to the swift resolution of any problem. At Tokio Marine HCC, we have a claims team with a wealth of relevant experience.

Civil works to embankment
Collapsed due to unstable subsurface conditions not being detected by geotechnical engineer. Settled for £500,000.

Design of highways and service roads on £2m superstore project
Failure to locate previous pilings in the area and insufficient access allowed for articulated vehicles. £80,000 remedial costs.

Design of heating system in factory
Refurbishment proved inadequate following miscalculations. Extra units required, costing £29,000.

Breaches of building regulations
Claim filed against the engineer and eight other parties on the contract. This scattergun approach used by solicitors incurred significant costs even though claim was successfully defended.

Engineer provided wrong specification for electricity supply to site contractors
Alterations and temporary generator required £28,000.

Specification and supply of 'load cells' within a definite accuracy for testing purposes
Cells found to be under-performing and eventually rejected. Cost: £42,000.

Refurbishment of noise test facility
Contract terminated citing delays due to design inadequacies, requiring complete re-fabrication to comply with pressure- equipment regulations. Claim: £1,500,000.

Why Tokio Marine HCC

- Direct access to a team of expert underwriters
- Located in London, Birmingham, Bristol and Manchester
- Understanding of clients' needs and cover requirements
- Speed and quality of service
- Policy documentation production within minutes of order

Tokio Marine HCC's insurance companies are highly rated:

Tokio Marine HCC has a wealth of underwriting knowledge within this sector. Please contact any of our underwriters to discuss our interest.

TOKIO MARINE HCC

Contact Us

London
Fitzwilliam House
10 St. Mary Axe
London
EC3A 8BF
+44 (0)20 7702 4700
mail@tmhcc.com

Birmingham
30 St. Paul's Square
Birmingham
B3 1QJ
+44 (0)121 345 8390
mail@tmhcc.com

Bristol
First Floor, Regent House
27a Regent Street
Clifton
Bristol
BS8 4HR
+44 (0)117 372 7280
mail@tmhcc.com

Cardiff
Henstaff Court
Conference & Business Centre
Cardiff CF72 8NG
mail@tmhcc.com

Manchester
Suite A, 6th Floor
Colwyn Chambers
19 York St
Manchester
M2 3BA
+44 (0)161 880 4723
mail@tmhcc.com

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