



Choose certainty.  
Add value.

## Civil and structural engineering services

Achieve structural quality assurance with third-party inspections and project management consultancy.

### Your challenges

Managing cost is crucial to ensure the profitability of construction projects. For example, with the rate of return in the construction industry averaging between one and three per cent per development, the two per cent estimated cost of rectifying defects can often wipe out any potential returns on investment. Construction defects can also lead to legal disputes and project delays, resulting in considerable financial losses for developers and investors.

Every building construction requires meticulous planning and multidisciplinary technical know-how to fulfil the various technical, financial and legal requirements of the construction industry. Companies also need objective expertise during dispute cases and support for bill of quantities documentation.

### Why is third-party expertise important for construction projects?

Objective third-party expertise can help ensure

that a building stands the test of time, weather and utilisation. A multitude of standards for construction and building projects have emerged over the past few decades covering areas such as structural stability, structural safety, fire protection, as well as a building's technical installations. These standards can help developers create safer and more reliable structures and environments for their occupants. Third-party testing and analyses according to these standards can also minimise damage rectification costs, extend the life of a structure and increase its value.

### How can we help you?

TÜV SÜD's comprehensive civil engineering and construction services extend from single activities to end-to-end support of your construction projects, whether you are developing a new structure or refurbishing and modernising an existing one. We can support your team throughout the building's lifecycle with technical consultations, quality assessments and certifications, and project management. In addition to



structural and construction services, we also provide a full suite of mechanical and electrical engineering services including consulting and third-party inspections for your building's mechanical, electrical and plumbing (MEP) systems. Our one-stop on-site solutions help to ensure a project's compliance to prevailing national and international regulations, whether it is a residential, commercial or industrial building.

### **Our civil and structural engineering services**

We provide the following services to ensure the structural stability and safety of your assets.

- **Project management consultancy**

TÜV SÜD helps streamline your construction processes and keeps the project on schedule, from initial planning and analysis to final acceptance. We help optimise the work processes of individual stakeholders and provide consultancy on design reviews and approvals, bill of quantities and contract management, construction monitoring, and construction site safety management.

- **Third-party quality assurance and quality control**

Regular third-party quality assurance and quality control (QA/QC) inspections by TÜV SÜD throughout the construction period will protect your investment by verifying that a project is being executed according to your plans and construction specifications. Our experts are able to recommend

the most financially and technically fit solutions to ensure that your processes and end product comply with all safety and quality requirements. Our failure analyses and consulting services on building physics contribute towards more successful projects. We also offer expert reports for insurance claims and court proceedings, construction damages, noise protection, heat insulation and damp proofing.

- **Structural controlling**

Our structural controlling services help address structural safety and stability during construction and the ensuing warranty period. These assessments cover a variety of tests and failure analyses based on TÜV SÜD's internationally recognised expertise in building physics and civil engineering, including construction cost control and TÜV SÜD Sustainable Certification of Real Estate (SCoRE) property certifications.

TÜV SÜD's structural controlling services include special inspections after flood or fire tests as well as the structural review of load-bearing capacities. Our experts will conduct chemical and physical analyses of the concrete and steel used in the building along with destructive and non-destructive testing. If our experts do find structural issues, they will also provide you with restoration and repair recommendations together with cost estimates.



#### ■ **Fire safety**

A building's fire safety strategy should be considered as early as the design stage, as it requires the optimum coordination of all sub-projects. TÜV SÜD's in-depth understanding of structural and organisational fire safety can help you develop comprehensive escape, rescue and fire-fighting plans. We provide consulting services on smoke extraction strategies and simulations, escape, rescue and fire-fighting plans, extinguishing water supply, and containment and evacuation simulations.

#### ■ **Sound proofing and building acoustics**

Residential property owners consider sound insulation and room acoustics a top priority after fire safety. TÜV SÜD's experts can help you develop plans for building quieter, more conducive rooms. We assist architects, planning officers and building developers around the world to develop plans for building and room acoustics, and offer expert reports on speech intelligibility within rooms.

#### ■ **Refurbishment and modernisation support**

TÜV SÜD's expert tests and analyses can help you design cost-effective permanent damage remediation strategies for refurbishing older structures. Our refurbishment proposals and repair recommendations include damage assessment reports, construction materials analyses, bills of quantities and acceptance documentation.

TÜV SÜD's expert analyses also cover concrete and facade refurbishment, including recommending solutions for removing asbestos and other building pollutants.

#### ■ **Mediation support services**

With strong expertise in civil engineering and building physics, our experts are often engaged to conduct comprehensive third-party building surveys and due diligence reviews to investigate building defects and damages in dispute cases. We provide arbitration and mediation support services by securing evidence through expert analyses, producing investigation reports on building materials and defects, and auditing of the financial accounting for construction projects.

### Your business benefits

- **Save cost** – by engaging TÜV SÜD's cost-effective integrated project management solutions.
- **Minimise risk** – by identifying quality problems early on and reducing the risk of expensive reworking delays and legal liabilities that can damage your reputation.
- **Improve quality control** – with our interdisciplinary support, which gives you efficient single-source control that allows you to keep your project on schedule, improve the quality of the final product and enhance user satisfaction.
- **Enhance efficiency** – with our complete one-stop solutions that can accommodate all your technical, project management and quality needs.
- **Gain a competitive edge** – by partnering with a globally renowned third-party service provider that has a strong reputation for quality, safety and sustainability.

### Why choose TÜV SÜD?

With a wide range of services and multidisciplinary engineering capabilities, TÜV SÜD can help you resolve



many of today's most complex building and construction challenges. We will design customised assessment and testing programmes tailored to your building's needs, providing you with a reliable basis for making informed decisions before your project even begins.

TÜV SÜD's reputation as an independent third-party consulting and technical service provider ensures certainty in planning and reliability for your construction project. Our internationally acclaimed experts regularly participate in building standards development committees, giving us foresight knowledge that allows us to offer best-in-class advisory to help you manage your risks and liabilities.

Our international presence in all major markets means that we have a deep understanding of both global and local building regulations. Over the years, our experts have worked on hundreds of public, private and joint-sector projects around the world, and can speak the language of your local teams on-site wherever you do business.

### **Choose certainty. Add value.**

TÜV SÜD is a premium quality, safety and sustainability solutions provider that specialises in testing, inspection, auditing, certification, training and knowledge services. Represented in over 800 locations worldwide, we hold accreditations in Europe, the Americas, the Middle East and Asia. By delivering objective solutions to our customers, we add tangible value to businesses, consumers and the environment.

#### **Related services**

TÜV SÜD provides the following related services:

- Construction materials and products inspection, testing and certification
- Lift and escalator services
- Mechanical, electrical and plumbing (MEP) services
- ISO 9001 – Quality management system certification
- OHSAS 18001 – Occupational health and safety management system certification