



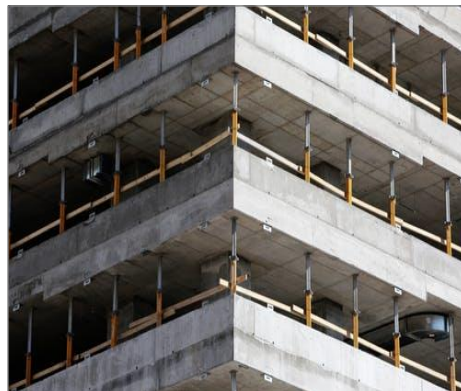
ENGINEERING DESIGN BUREAU
Consulting Engineers, Planners & Architects

BUILDING & RETEXTURE

Overview

Engineering Design Bureau has forged a strong team of experts comprising of architects and structural engineers. EDB has handled several projects in this field, which include, commercial, industrial and residential building and other civil engineering projects. Our firm also offers integrated services covering architecture, structural engineering, sanitation works, water works, electrification and air-conditioning multistory buildings and industrial buildings are a specialty of EDB.

EDB has affected great saving for its clients through proper planning, adoption of correct structural systems and careful handling of detailed design using sophisticated design procedures. Our firm has been responsible for the design of overhead water tanks, multistoried office blocks, factory building, warehouses, blocks of residential flats and other building complex. EDB has substantial individual experience in the design of heavy foundation subjected to vibratory loads.



Services & Specifications

Testing and Analysis Services EDB provide

1. Soil Investigation/Testing:

EDB has track record of providing soil / geotechnical investigation services and our expert field team can collect accurate information for physical properties of soil at construction site and collect samples

from soil / rock strata at drilled depth. We provide reliable and accurate results of soil / rock and chemical samples.

2. Ferro Scanning of RCC Structure:

Ferro scanning is a Non-destructive testing and analysis and performed on concrete structure using latest Hilti equipment. This test provides the information regarding steel reinforcement diameter, spacing and concrete cover. It provides 3D visual scan images to determine reinforcement steel details in RCC structure. This test is an effective means for details of reinforcement steel in any concrete structural member.

3. Corrosion Analysis:

Corrosion analysis is most accurate non-destructive method for the information concerning corrosion activity of steel embedded in concrete. This test may be used at any time during the life of concrete member. It is an excellent test for corrosion analysis and is used for in service evaluation and calculating structural strength of concrete. The test results are very accurate and can be used for analysis, research and development works.

4. Chloride Ion Penetration Test:

This testing is used for quality control and concrete mixture design applications, providing surface resistivity indication of concrete ability to resist Chloride ion Penetration and also giving much more reliable results with latest equipment.

5. Concrete Resistivity:

Complete comprehensive electrical resistivity solution for concrete durability testing with the highest resolution surface resistivity instrument. Ideal test method for use in quality control program and performance based solutions.

6. Ultrasonic Pulse Velocity Test:

This test is widely used for the estimation of strength and durability of concrete structure. This test can also be used for evaluation of homogeneity and uniformity, presence of cracks, voids and deteriorated regions of concrete. It gives reliable results of dynamic measurement of size and depth of cracks. Ultrasonic Pulse Velocity can also be used to calculate elastic modulus of concrete.

7. Rebound Hammer Test (Schmidt Hammer):

For quick and general assessment of concrete compressive strength, rebound hammer test is used all over the world. The commonly used testing facility provided to the site at very economical rates with highest level of accuracy.

8. Fire Damage Evaluation or Analysis:

Complete range of testing is available for the evaluation of fire damaged structures. Our services in this sector are available from preliminary site investigation to the detailed examination of structure for extent of damage and its serviceability. Additionally, services for the rehabilitation and retrofitting design of fire damaged structure are provided under same setup.

9. Active & Passive Fire Safety:

We offer active and passive fire safety design and supervision for building and provide automation building design for both pre-construction design and post construction status to facilitate the customer requirements as per international standards. We also offer cost effective and efficient fire safety material supply guideline to meet the latest UL, NFPA and ASTM Standards.

10. Anchor/Rebar Pullout Strength Test:

Customized pull out test services are available, starting from very small anchor bolts to large scale bolts up to 50mm diameter installed in concrete and rock surfaces. Pull Off testing as semi-destructive test for concrete can also be performed under similar setup. We are certified agency to perform pull out tests for Hilti anchor bolts and chemical anchoring system.

11. Structure Analysis Test:

Structural analysis services are available, EDB analysis structures in order to determine the effects of loads on physical structures and their components. EDB analysis structures subject to this type of analysis include all that must withstand loads, such as buildings, bridges, Telecom Towers, Transmission line towers, etc. Therefore, Structural analysis is thus a key part of the engineering design of structures.

12. Aggregate Testing:

This type of testing is used in order to decide the suitability of the aggregate for use in pavement construction, EDB carries out multiple tests in order to determine the suitability and provide solution as per client's requirements.

13. Water Proofing:

Waterproofing or weather proofing is an essential part of any structure for long term reliability and safety of the structure. EDB provides services to aid client in waterproofing their structures and also provides supervision services as well.

14. Asphalt Coring & Testing:

Normally used for analysis of roads and other forms of pavement, asphalt coring and testing is used to gauge the compaction. EDB provides analysis and evaluation services pre-construction as well as post construction of the road and/or pavement.

15. Concrete Coring & Testing:

EDB's well trained team of experts extract multiple samples of concrete using latest Hilti equipment and then sends the extracted samples to the laboratory for testing and analysis. This procedure is very important in determining the integrity of the stability of the structure.

16. Material Bond Strength Testing:

Bond strength generally involves determining the stress required to rupture a bond formed by an adhesive. Often, the test involves the measurement of the shear and flexural bond strength of a bonding agent or a comparison of bonding agents under varying environmental conditions.

17. Noise Test:

The essential purpose of noise testing is sound insulation testing is to ensure that walls and floors are attenuating that is reducing an acceptable amount of noise. EDB provides these services via placing noise measuring devices in dB in different locations of the already built building and analyzing the sound insulation and provide solution as per client's requirements.

18. Vibration Test:

EDB provides vibration testing of equipment placed on or inside the structure such generators are placed on the roof of a building. The vibration produced by the equipment is measured by vibration measuring devices and then is analyzed. EDB provides its clients with these solutions as well as provides solutions to reduce vibrations as it could lead to structural weakness.



(a) Ferro Scanning



(b) Concrete Coring



(c) Ultrasonic Pulse Velocity



(d) Schmitz Hammer Testing



(e) Boring in ground for Soil investigation



(f) Fire Safety Evaluation of PTCL Building

Designing and Supervision by EDB

Based on testing and analysis EDB's expert engineers provide designs as well as supervision services in the following areas as per client's needs:

- Structure design
- Architecture design
- Public Health
- HVSE
- Electrical design

- Fire Fighting
- Building 3D Modeling
- Building construction Supervision.

Standards EDB Uses

The following Standards are currently being implemented by EDB:

RS-222, RS-222-A, RS-222-B, EIA-222-C, EIA-222-D, EIA-222-E, TIA/EIA-222-F, ANSI/TIA-222-G (including TIA-222-G-1 and TIA-222-G-2), ANSI/TIA-222-H, and CSA S37-01.

Result Output

Any of the outputs mentioned below can be provided depending of the scope and specifications as per client's requirements:

- Detailed Engineering Documents (DED): Extensive, customizable output reports which includes any and all design aspects mentioned above in Design and Supervision section. Reports are viewable directly in PDF form only.
- Finite Element Analysis results for detailed solution diagnostics.
- DXF export of model geometry.
- Structure Feasibility report.
- Stability certificate.

For more information call on our landline given below:

- Lahore, Head Office (HQ) Tel: +92-42-35169798, +92-42-35177494
- Karachi, Regional Office (South) Tel: +92-21-3-4556128
- Islamabad, Regional Office (North) Tel: +92-51-2651020
- Email: Info@edb.com.pk