



Wayss & Freytag Ingenieurbau AG
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Construction material technology
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**Construction
material technology**

Connections for life

We are Wayss & Freytag – your partner in civil engineering

The building materials technology department of Wayss & Freytag Ingenieurbau AG can look back on a long tradition, with over 65 years of experience. In 1954, the concrete laboratory was officially recognized as an approved test centre for the first time. The basis and foundation for this are our highly qualified employees at the central location in Frankfurt/Main. The building materials technology department stands for new technologies and in-house innovations. As a permanent concrete test centre, we

cater for both our own and third-party construction sites as well as joint ventures, both at home and abroad. Our fields of activities include water, tunnel and power plant construction, foundation engineering, civil engineering and PPP projects. We are a central service provider with a high level of expertise and draw up comprehensive offers for consulting, development and testing of concretes, annular gap mortars and bentonite suspensions.

Range of services

General

Overview

- Project processing (estimating and execution)
- Specialist consulting
- Individual consulting and concept development
- In situ service
- Quality control
- Quality assessment of concrete batching plants
- Basic training and further education
- Participation in external boards and committees
- Research & development



Competences

Certifications

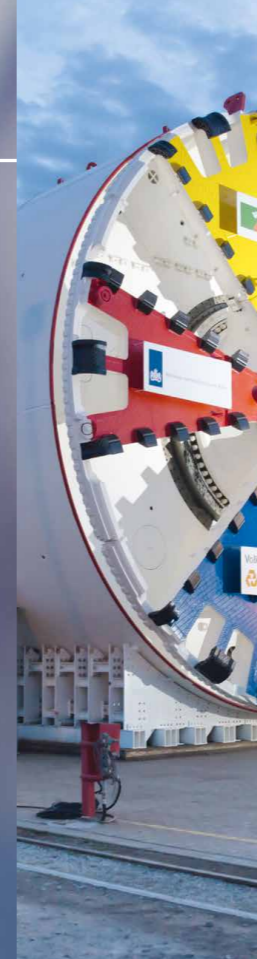
Permanent concrete test centre according to DIN EN 13670 in connection with DIN 1045-3
Qualified personnel according to § 62 (2) WHG (Federal Water Act)



Structural and Civil engineering



Conventional tunnelling



Mechanized tunnelling and pipe jacking



Special foundation engineering



Concrete batching plants

Fields of applications

Concrete technology

Project-specific concrete tendering

Specifications

- Assessment of project-specific concrete tenders
- Preparation of draft formulae for tenders
- Assessment of concrete offers
- Support in contract negotiations regarding concrete
- Preparation of alternative proposals
- Assessment and selection of concrete constituents
- Constituents tests
- Development of special concretes
- Preparation and optimization of formulas
- Performing initial tests
- Concrete self-monitoring – concrete monitoring categories (ÜK) 2 to 3 (regional)
- Keeping monitoring files ÜK 2 and 3 in the course of the self-monitoring, including evaluation, registration and signing off (login and log-off)
- Project monitoring for special concrete and building materials technology implementations
- Preparation of concreting and post-treatment concepts for quality assurance purposes
- Preparation of strength forecasts (e.g. stripping time)



Conventional and mechanized tunnelling

Specifications

- Checking and evaluating of shotcrete
- Development of supporting fluids for hydroshield drives
- Development of annular gap grouting mortars
- Development of concrete formulas for concrete segments
- Quality assurance of concrete segment productions
- Soil investigation and separation concepts on a smaller scale



Special foundation engineering



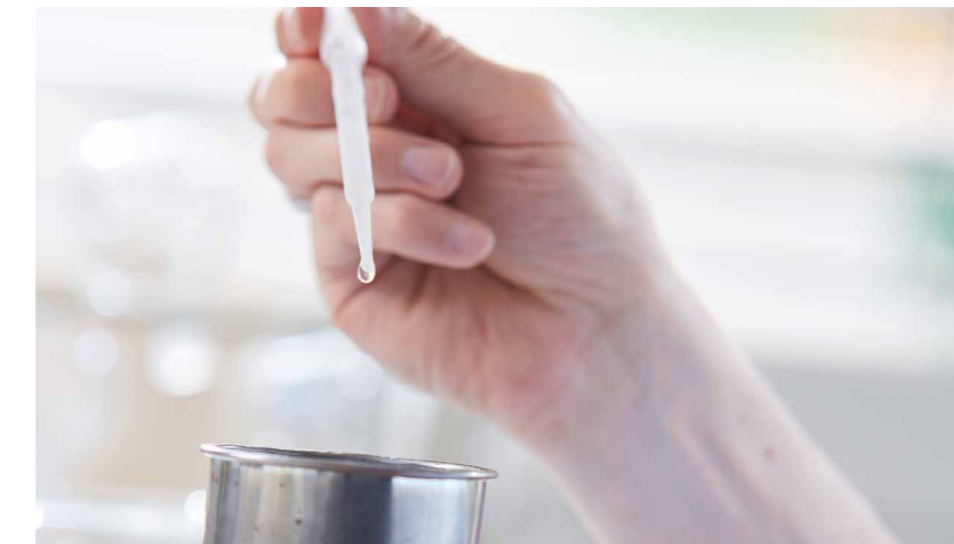
Specifications

- Concrete and construction materials consulting
- Development of supporting liquids for diaphragm wall construction
- Preparation of draft formulas and concrete suitability tests
- Examination of fresh concrete stability
- Development of cement bentonite suspensions for single-phase walls (cut-off walls)

Measuring and testing technology

Specifications

- All relevant test equipment pertaining to a permanent test centre
- 5,000 kN compression testing machine
- 1,000 kN compression testing machine
- 30 kN compression testing machine
- Water impermeability (WU) testing system
- E-module examination
- Bending tensile strength test
- Splitting tensile strength test (cube and cylinder)
- Checking structural stability by core sample test
- Rebound hammer and silver smith hammer tests on components
- Checking the development of early strength of shotcrete using a penetration needle and the HILTI bolt-setting method
- tear-off resistance (surface or adhesive tensile strength)
- Wenner probe (measurement of the electrical conductivity of concrete)
- Data logger for recording and documentation of temperature developments
- Climatic chamber from +60 °C to -15 °C
- Climate box for the temperature-controlled storage of test specimens under component conditions to measure the stripping strength and curing time
- Bauer concrete filter press to test the filtrate water release of mortar and concrete
- Checking and evaluating the sedimentation of fresh concrete
- pH and conductivity measurement
- Special testing devices for annular gap mortar
- Testing equipment for bentonite suspensions
- HAAKE™ Viscotester™ 550 Rotational viscometer to measure viscosity and flow behavior of liquid and semi-solid test materials



Concrete batching plants

Specifications

- Consulting and auditing
- Estimating
- Evaluation of offers



Knowledge Management

Specifications

- Maintaining the state of the art and standardization in matters pertaining to building materials
- Participation in external bodies and committees
- Organization of and contributions to internal workshops
- Training and conferences
- Technical consultation
- Practical development
- Research and development

Visions & Values

Building the present – creating the future

We are building the world of tomorrow today. Using modern technologies, we construct structures benefiting people today and providing a future for generations to come. Intensive networks are the basis for this. A functioning infrastructure ensures an intact business life and provides the conditions for personal interaction. Our tunnels, transportation routes or bridges connect people

and business partners and create the foundation for future prosperity. Our goal: to develop sustainable solutions that respect people and the environment. As a group company of the Royal BAM Group, we have an optimal network of experts as well as the potential and experience to realize exactly the right future-oriented solution for your project.



Our values and principles

Wayss & Freytag Ingenieurbau AG has set goals, values and standards that determine our actions. We share these benchmarks with all group companies of the Royal BAM Group.

