

Sustainable water management

Providing people with water.

Maintaining the ecological balance.

Improving the sustainability of water systems and sanitary equipments.

Supporting innovation.

The CSTB guides stakeholders in managing these challenges at the scale of materials/components, buildings and neighborhoods.

www.cstb.fr/en/



A public organization serving stakeholders in water management

A state-owned industrial and commercial company, the Scientific and Technical Center for Building (CSTB) offers its multidisciplinary expertise in the management of the water cycle.

The CSTB assesses products and systems on the market. These assessments mainly concern waste management and water supply systems for housing units and infrastructure. This third-party consulting optimizes your choices for the sustainability of your assets. The CSTB is also involved in the validation of innovations to improve the reliability of implementation of products and systems. It issues quality marks and supports products to ensure reliability and durability.

Thanks to the CSTB's cross-cutting expertise in the entire water cycle, you are guided by a single versatile and independent contact person qualified on the scientific, technical and regulatory levels.

1. Migration test bench for substances in water.
2. Pressure strength tests.
3. Ball valve endurance test bench.
4. Scaling simulation test bench.
5. Aquasim: major facility for research and innovation in sustainable water management.



01 Research and expertise at the CSTB: tailored guidance to meet your needs

- **Use of quality marks** to assist with specification and choosing solutions during public procurement.
- **Verification** of the implementation of rehabilitation work.
- **Diagnostics** for sanitation facilities.
- **Support for public authorities** as part of innovation (issuance of approvals, ATEX "simplified regulations," Technical Appraisal secretariat, European Technical Assessment, etc.)
- **Experimental and digital simulation**, testing in climatic basin, testing in urban biogas plants.



recherche.cstb.fr/en/: find out about our research support

02 Technical assessment of innovations: tools at your disposal

Innovation assessments provide public authorities with reliable information about the performance and durability of components (systems, materials, facilities, etc.) for well-defined uses and installation conditions, in compliance with regulations. Using products, systems and structures incorporating innovations validated by the CSTB through procedures recognized by stakeholders is a sign of trust and quality. These assessments make it easier for innovations to reach the market.



03 Certification for higher quality: making informed choices



The QB and NF certification marks certify (based on European and complementary standards to meet the needs of the market) the consistent quality and performance of products over time, thanks to checks in plants and laboratory tests.



3.

ATec: Technical Appraisals that improve the suitability for use of innovative products and systems for a specific scope of application.

ATEX: Technical Experimentation Assessments that enable the use of innovations early in construction projects (either before a Technical Appraisal to get preliminary feedback on the implementation of systems, or for a single construction project).

ETPM: Preliminary Technical Evaluation of Material for an innovative material that is part of the composition of a product to assess its properties.

ATT: Transitional Technical Assessments apply to systems used in construction that are no longer eligible for Technical Appraisals.



evaluation.cstb.fr/en/: visit our information portal on the issues and assessment procedures of the CSTB



4.

04 Tests: facilities and skills at your service

The CSTB uses its test facilities to assess the quality of water systems and develop sustainable management. In addition to test benches, there are major facilities making it possible to conduct a broad range of tests on materials, products and components in varied scientific and technical disciplines, including:

- **Performance:** mechanical strength, tightness, energy performance of heat recovery systems.
- **Long-term performance:** creep, corrosion, abrasion, aging and others
- **Characterization of materials:** 3-point bending, pulling, melt flow index, thermal stability, infrared analysis and others
- **Initial type of testing as part of CE marking:** pumping stations, grating devices, durability of small treatment plants.
- **Mechanical performance of the materials used:** acceptance of rehabilitation sites.

OUR TEST FACILITIES

The CSTB has special facilities to study the sanitary quality of water and develop sustainable management. The quality and control of our tests is recognized by COFRAC (the French Accreditation Committee).



5.

05 Dissemination of knowledge: supporting upskilling

TRAINING

“Technical regulations and standards in the construction industry: quality marks”
// RÉFÉRENCE REGO

“Anticipating the impact of regulations and risks at the preliminary stage of project design”
// RÉFÉRENCE PCF-MOA



www.batipedia.com: see our technical standards training offer

Scientific know-how covering the entire water cycle

The CSTB offers a dual approach, combining digital simulation and full-scale experimental tests controlled under real conditions, and in four specialist areas.



1. Wastewater treatment

- Tests on calibrated and artificially contaminated raw sewage, grey water with different qualities, and infiltration plots with groundwater.
- Molecular biology techniques and treatment of microorganisms.
- Hydrodynamic tracking.



2. Drainage systems

- Underground structures: mechanical behaviour and implementation.
- Rainwater storage and infiltration facilities.
- Systems: gravity sewer and drainage, rehabilitation of drainage systems.
- Water supply.



3. Storm water management

- **Hydrodynamics:** behaviour and mechanics of rainwater storage systems (ultralight honeycomb structures, tunnels, etc.), storm water management facilities, mechanical and hydrodynamic simulation.
- **Infiltration:** drainage with replenishment of soils with varying permeabilities, rising groundwater on soils, optimization of techniques.
- **Performance assessment protocol** for storm water treatment systems (decantation, infiltration, treatment with vegetals).



4. Water and energy

- **Thermal impact:** study of the operation of water treatment stations.
- **Heat recovery** in private homes, buildings and neighborhoods.
- **Technological feasibility** of anaerobic digestion systems at the urban scale and technical expertise in integration into neighborhoods.

Find out more

The CSTB also guides you in these areas:

- **Aquatic centers and recreational water:** water and air quality, energy performance, coatings and structures, visual and acoustic comfort, infrastructure durability, effectiveness of treatments.
- **Drinking water quality:** sensory measurements to characterize the organoleptic qualities of water (taste, flavor, odor), instrumentation for drinking water quality.
- **Roof and facade plant cover:** thermal performance and management of heat islands, carbon sequestration, contribution to urban environments.

They trust us

Over 300 Technical Appraisals for Water and Sanitation (Specialized Group No. 17).

More than 1,000 acceptance tests a year at wastewater system rehabilitation sites.

Eau de Paris / Agence Française de la Biodiversité -
ONEMA / ANSES / Agences de l'Eau / Efficacity.

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