

# Physical and Chemical testing for construction products

Characterize and evaluate all of your product's features to ensure its correct use in the construction site.



To ensure the correct use of a material and maintain quality in construction, manufacturers must evaluate their product's properties and follow a suitable quality control plan.

For each product and specific use, national and international standards have been established that specify the mechanical, durability, physical and chemical properties and requirements that are applicable to them.

## **Construction materials characterization**

Applus+ performs full construction material characterization studies and works with manufacturers to develop detailed quality control plans for their products. Our service includes:

- Identifying materials, uses and applicable regulations.
- Customized test plans definition and execution
- Test report issuing and improvement plans
- Supporting new product development

Our technical teams carry out standardized tests or customized tests adapted to each product and Project. We characterize the following groups of products, among others:

- **Aggregates:** Abrasion, absorption, density, hardness, grain size, susceptibility to frost, agglomerates adherence, chlorides, sulfates, magnesium, chemical attacks.
- **Natural Stone:** Absorption, density, porosity, petrography, hardness, composition, chemical attacks.
- **Bituminous materials:** Marshall, compaction, porosity, void content.

- **Cements, limes and plasters:** Setting, expansion, chemical composition.
- **Uncured concrete, precasts, additives:** Density, porosity, absorption, pH, chloride, IR, composition, alkalis.
- **Wood:** structural, cladding and boards: Density, moisture content, visual grading, thickness swelling, water vapor permeability, thermal conductivity, hazardous substance content.
- **Thermal insulating:** Thickness, density, water absorption, resistance after cycles.
- **Sheets and panels:** Dimensions, density, water absorption, surface hardness.
- **Suspended ceilings and profiles:** Geometry, yield strength, degree of protection.
- **Masonry and ceramic products:** Geometry, % of voids, density, water absorption, efflorescence, susceptibility to frost, adherence, active salts.
- **Paints and finishes:** Density, viscosity, adherence, permeability, color durability, cracking.

We have a large number of proven, quality accredited laboratories to tests construction products.

Our testing capabilities allow us to fully characterize the products using numerous technologies (mechanical, acoustic, and thermal behavior, reaction to fire, physical-chemical characterization of materials, etc.), thus adjusting the time and costs needed to characterize your product.

Applus+ is Notified Body\* No. 0370 for the Construction Products Regulation, and we are involved in the evaluation and [CE marking process of more than 200 different construction products](#).

### **Benefits**

- Increase the product's reliability by detecting latent defects
- Improve your product's quality, and lower, among others, the costs for non-quality, post-sale incidents, etc.
- Applus+, one stop shop for your product's full characterization and validation.