Accreditation:

Delivering confidence in construction and the built environment

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Standards and accredited conformity assessment are market-based tools that can be used in the construction sector to cover construction products and materials, building techniques and practices, onsite Health & Safety, environmental impact, to even the use of digital technology in smart buildings.

The construction sector is complex and highly competitive, and provides challenges for companies seeking to improve margins, and reduce costs whilst improving build quality and ensuring a safe environment on site. Accreditation supports the construction sector to control risk, help drive efficiency, demonstrate regulatory compliance, and provide supply chain confidence.

What are the issues?

- Are the buildings we live or work in safe?
- Are there measures in place to ensure that construction sites are safe places to work?
- What reassurance is there that raw materials and construction products meet specification and are of suitable quality?
- How do we know that buildings are capable of withstanding fire, storm, water, collapse, subsidence, vibration?
- How can we trust claims made about the environmental impact and sustainability of construction projects?

The building sector is important for economic development, employment creation and the environment. The volume of construction output is forecast to grow by 85% to $15.5 trillion worldwide by 2030[1]. This growth will be driven by developed countries recovering from economic instability and emerging countries continuing to industrialize. With a growing world population, and around half of that population living in urban areas, the need for commercial and domestic construction and infrastructure increases. At the same time, there are diminishing natural resources, pressures on public and private finances pressures, and requirements placed on the environmental impact and long-term sustainability of construction projects.

Accreditation can support the sector to meet its need for smarter, cleaner and safer construction by providing assurance into the safety of the workforce on-site, the quality and origin of construction products and raw materials, the energy efficiency of buildings, the quality of design and architecture, the safe installation of electrical and gas networks, and the long-term sustainability of buildings.

Construction tenders in Northern Ireland require Environmental Management System Certification

In Northern Ireland, all construction works contracts procured by a Centre of Procurement Expertise (CoPE) include a requirement that all main contractors seeking to tender shall have and maintain an Environmental Management System (EMS) certified by an accredited third party. The department has taken this step to minimise the impact that construction has on the environment and to ensure that contractors comply with applicable laws and regulations.

Central Procurement Directorate (CPD) in conjunction with the CoPEs will approve and accept third party certification of an EMS provided that:

- it is based on a recognised standard – for example, ISO 14001, and
- it is construction focused incorporating site inspections and
- the third party certification body is accredited

[1]PwC Global Construction 2030

What is the role of accreditation?

Accreditation determines the technical competence, integrity and impartiality of organisations providing conformity assessment services such as testing, calibration, certification, and inspection based on international standards.

Accreditation is an impartial and objective process that provides the least duplicative, the most transparent and the most widely accepted route for the provision of credible and trustworthy conformity assessment results.

Accreditation bodies are established in most countries to ensure that conformity assessment bodies are subject to oversight by a competent body. Internationally recognised accreditation bodies, which have been evaluated by peers as competent, sign international arrangements that enhance the acceptance of products and services across borders, thereby creating a global infrastructure to support trade regulatory approval processes, and confidence in the marketplace.

These arrangements are managed by IAF, in the fields covering accreditation of certification bodies and verification/validation bodies, and ILAC, in the areas of laboratory and inspection body accreditation.

This system helps to make work carried out by accreditation bodies consistent across the globe, and maintains international standards from one accreditation body to others. As a result, products and services tested, inspected or certified once under the IAF and ILAC umbrella can be accepted everywhere with equal confidence.

Swedish Authorities rely on accredited personnel certification to support the quality of the built environment

The Swedish authority Boverket – the Swedish National Board of Housing, Building and Planning uses accredited certification bodies accredited to ISO/IEC 17024 to certify persons to ensure that they are competence according to:

- Expert in Energy consumption in buildings according to regulation BFS 2011:9
- Expert in Quality assurance during construction of buildings according to regulation BFS 2011:14
- Expert in Ventilation system in buildings according to regulation BFS 2011:16
- Expert in Fire protection in buildings according to regulation BFS 2011:17
- Expert on Culture values for buildings according to regulation BFS 2011:16
- Expert in Accessibility in buildings according to regulation BFS 2011:18

What benefit does accreditation provide?

For Government and Regulators

Accreditation is a well-established process that can demonstrate that organisations are compliant with their regulatory responsibilities. It can also:

- Reduce the need for central and local government to employ their own specialist assessment personnel. Accreditation provides assurance to Government to rely on commercial providers of evaluation and inspection services in the construction sector.
- Enable innovation and the dissemination of good practice.
- Build a more competitive economy through the international acceptance of results and certificates and the removal of technical barriers to trade.
- Build supply chain and public trust of activities that have the potential to impact on public confidence, health and safety or the environment.

Ensuring greater safety on building sites in Dubai

Local regulators, the Public Health & Safety Department & Building Department in Dubai require that lifting equipment including cranes and lifts are periodically inspected by accredited inspection bodies. This helps supports the regulator, as well as ensure a safer working environment.

Improving the quality of public sector housing in Hong Kong

The Hong Kong Housing Authority builds an average of 20000 flats per year for the public sector in Hong Kong. The quality of building materials and components is a prime concern to both the Authority and to industry as rework of any non-complying building products would have time, cost, safety and reputational implications. The Housing Authority fully recognises that product certification is an upstream quality control process and it offers higher quality assurance through regular rigorous audits by a competent third party certification body.

As a result, the Housing Authority specifies the requirement of using certified products for ten major building materials in its construction projects. Other than those building materials specified by Housing Authority, more construction product certification schemes have also been developed or are being developed (e.g. steel reinforcement, paints, mechanical couplers, aggregate products, etc) per the requirement of various stakeholders. Product certification provides a reliable means for assuring production quality throughout the whole production process from incoming raw materials, production, inspection, sample selection and testing, traceability, etc thus making available certified construction products of quality for use in building projects.

What benefit does accreditation provide?

For Construction Companies

- Confidence that manufactured products and raw materials are safe and meet specification, thereby reducing potential delays, product failure, and project costs.
- Provide a safe working environment for employees
- Using an accredited body to carry out an independent evaluation helps demonstrate due diligence in the event of legal action.

The competence of Building Control underpinned by accreditation in New Zealand

Building Consent Authorities (BCAs) in New Zealand that carry out building consenting and inspection must be accredited to demonstrate their competence and impartiality. Accreditation is awarded against standards and criteria published by the Ministry of Business, Innovation and Employment (MBIE). Accreditation aims to improve the control of, and encourage better practice and performance in building design and regulatory building control.

For Manufacturers of construction products

- Reliable measurements, tests and inspections are carried out in compliance with best practices to limit product failure, reduce down time and control manufacturing costs.
- Accreditation to internationally-recognised standards can provide a competitive advantage and facilitate access to export markets
- Accreditation is recognised by Regulators and can support approval processes
- Using an accredited body to carry out an independent evaluation helps demonstrate due diligence in the event of legal action.

Japanese local governments and public agencies rely on accredited testing laboratories in the ready-mixed concrete and building material industries for public works

In Japan, Testing Laboratory Accreditation System based on the JIS Law (Japan National Laboratory Accreditation System, JNLA) for concrete strength testing and metallic materials tensile testing are adopted in specifications or guidance documents issued by local governments and public agencies as part of requirements for third party testing facility. Based on these requirements, for example in the ready-mixed concrete and building material industries, testing facilities are accredited according to ISO/IEC 17025 as testing laboratories so that they can deliver confidence in their test results and contribute in ensuring the safety of public construction and built environment.

What benefit does accreditation provide?

For Building owners and Facilities Managers

Owners of commercial properties or Facilities Managers are responsible for provide a safe and efficient environment which supports businesses and other types of organisations. Facilities managers use the services of external contractors to provide testing, inspection and certification services to monitor the safety of the built environment.

Accreditation ensures that they can make an informed choice and have confidence in their selection of suppliers.

This can include the testing of asbestos samples, legionella bacteria, noise acoustics, sound-proofing, and ambient air quality. It also covers the certification of renewable energy installers, the installation of alarm and security systems, fire safety inspections, asbestos surveys, legionella risk assessments, and pressure vessel lift inspections.

Ensuring the safety of pressure vessels in South Africa

The Minister of the Department of Labour (DoL) recognises the use of Risk Based Inspection (RBI) implemented by those responsible for pressure vessels and steam generator in industries. These regulations are enacted through an accreditation programme that recognises that certification bodies will certify risk based inspection management systems. Industry benefits through reduced downtime of equipment, and potentially lower insurance premiums.

For consumers

- Confidence in the safety of new and existing buildings and the general infrastructure.
- Confidence in the claims made about sustainability, environmental and energy performance of commercial and domestic buildings.

Testing the quality of construction products and materials in the UK

Testing laboratories operate in the fields of construction materials (such as concrete, aggregates, cement, soils, bituminous materials, roofing materials, rock and natural stone, masonry, steel), manufactured construction products (such as Road Signs & Lighting Columns, Floors, Non Electrical Cutlery and Domestic Kitchen Tools, Windows, Glazing and Doors, Pipes, Ducts and Fittings, Plumbing Components, Valves, Fittings and Water Meters, Vehicle Light Fittings, Bulbs and reflectors, paints and coatings, Road Signs & Lighting Columns, ceramics, tools, and artificial sports and playground surfaces), geotextiles, NDT, engineering materials, machinery and structures, acoustics, and air leakage testing to deliver supply chain confidence.

Calibration laboratories specialise in acoustics, dimensional, mass, density, volume, force, torque hardness, electrical, pressure, fluids, temperature and humidity testing.

Further information

Visit **www.publicsectorassurance.org/topic-areas/construction** to access more examples of how accreditation is used in the construction sector by central government, local authorities and regulators to deliver positive benefit.

Further information on the ILAC mutual recognition arrangement (ILAC MRA) and a list of Accreditation Body Signatories is available on the ILAC website **http://ilac.org/ilac-mra-and-signatories/**

Further information on the IAF Multilateral Recognition Arrangement (MLA) and a list of Signatories is available on the IAF website **http://www.iaf.nu//articles/IAF_MEMBERS_SIGNATORIES/4**s.

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