

ISO/IEC 17025:2017

General requirements for the competence of testing and calibration laboratories



Unica Iron and Steel is a leading manufacturer of light and medium structural steel. Their constraint on the time taken to test the quality of the steel by an accredited body was a challenge. UNICA Iron and Steel created an independent organisation to test the Quality of Iron and Steel.



ABOUT ISO/IEC 17025:2017

The ISO/IEC 17025:2017 standard provides the general requirements for the competence of testing and calibration in laboratories. This standard is audited by accreditation bodies such as the South African National Accreditation System (SANAS), where a Quality Management System is required and aligned to the laboratories' requirements.

This can range from chemical testing, mechanical testing or any other elements that are required to be tested, verified and validated using calibrated machines to verify the chemical and mechanical properties of the sample.

ISSUES BEFORE ACCREDITATION

-  The delay from accredited certification bodies to provide the relevant test report and certificate.
-  A lack of quality testing on various iron and steel products.
-  Loss of revenue due to delays in tests.
-  Issues with the effective maintenance and calibration of instruments that conduct internal testing prior to external tests.

THE PROCESS OF MITIGATING THE CHALLENGES

1. Conducting a Gap Analysis against ISO/IEC 17025:2017 and a Physical Laboratory design analysis.
2. Developing an action plan to develop the Laboratory management System independent to that of UNICA Iron and Steel with independent Organograms to define impartiality from production and testing. A laboratory design was conceptualised, designed and approved for construction.
3. Awareness Training, Documentation Development, Correct Testing Equipment Procured, with Method Statements and Working Practices embedded into the system.
4. Construction completed.
 - a. Measurement equipment moved into the laboratory and calibrated to ensure accuracy.
 - b. Measurement uncertainty of all equipment was evaluated and documented.
 - c. Intra-laboratory comparisons conducted to validate results within the laboratory.
 - d. Inter-laboratory comparisons/ proficiency testing conducted to validate methods and results with other independent and accredited laboratories.
5. Implementation and Internal Audit Training with the motive of generating records for the Laboratory utilising the new structure, system and equipment.
6. Independent internal audit, Non-conformance and Corrective Action workshops followed by Management Reviews.
7. External SANAS audit and accreditation.

THE BENEFITS AFTER ACCREDITATION

-  Greater turnaround time in production.
-  Reduced lead time and more satisfied clients.
-  Increased demand and credibility of test reports through validation with SANAS.
-  Improvement in the understanding of the standard and adopting the system to generate the relevant records to provide confidence in the laboratory's Quality.

RESULTS

12% Increase in production turnover time.

88% Client Satisfaction increase.

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