

## InformationPaper

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### Proficiency testing - benefits

Proficiency testing can provide a reliable means of verifying the accuracy of laboratory tests performed by paper manufacturers, printers and converters.

Laboratory testing plays a vital role in quality control and allows the efficiency of production processes to be optimised. However, errors which occur during laboratory testing can have serious implications for manufacturing and subsequent material processing.

There are a number of reasons why laboratories may incorrectly report results, these include:

- Sample handling errors
- Inadequate staff training
- Incorrect testing procedures
- Faulty test apparatus
- Errors in calculations
- Reporting errors

Errors in laboratory testing can lead to manufacturing 'down time', waste product and reduced production efficiency. Errors in testing can also cause materials to be rejected by customers forcing products to be discounted or orders to be remade. Perhaps the greatest risk is the cost of product losses associated with failure due to out-of-specification materials. Suppliers associated with inconsistent or unreliable materials also risk the cancellation of repeat orders.

These problems are less likely to occur if the laboratory has a robust quality system in place. Essential elements of a laboratory's quality system include external assessments of the routine testing procedures using proficiency testing schemes.

Proficiency testing is an effective tool in helping laboratories to ensure that tests are correctly performed and reported. To be effective, proficiency testing schemes need to be well run and provide samples which are representative of actual test materials. Proficiency schemes provide the following benefits:

- Monitoring and improvement of measurements
- Benchmarking against other laboratories
- Improved process control
- Demonstrate competency to customers and accreditation bodies
- Staff development and training
- Evaluate methods and instrumentation calibration
- Establishes the effectiveness and comparability of test methods
- Validates tolerances and uncertainty claims

The need for on-going confidence in laboratory performance is not only essential for laboratories and their customers but also for other interested parties, such as regulators, laboratory accreditation bodies (for example ISO 17025) and other external auditors.

### Proficiency testing for paper manufacturers, printers and converters

The CEPI comparative testing service (CEPI-CTS) provides a quantitative, simultaneous and continuous proficiency testing scheme ideal for paper manufacturers, converters and printers. The service currently includes over 100 different standard tests which cover the physical, chemical and

optical properties of paper. The range of tests available includes those typically used for process control and material specification.

The test substrates have been selected to meet a range of industrial needs. Consequently, unprinted papers and boards, as well as printed papers, corrugated boards, tissue products and labels are provided for different tests.

The service is available twice per year through a number of distributors which are listed below. Customers are provided with test materials which are assessed/measured using the customer's normal laboratory procedure. The results of the customer testing are then returned to the distributing laboratory for statistical analysis and interpretation.

### **Proficiency testing scheme procedures**

Proficiency testing provides an effective insight into the accuracy of routine test results, but only if samples are treated in the same way as routine tests. This means that each stage of proficiency testing, from receipt of samples to conditioning, preparation, testing and reporting are handled by the same technicians who would normally perform the routine tests. If the proficiency samples are not treated in the same way as normal testing, then nothing will be learnt about the accuracy of the routine tests, even if the proficiency results are outstanding.

Proficiency testing is no substitute for the other elements of a laboratory quality system. It is not a substitute for proper staff training, instrument calibration and environmental conditioning. Proficiency testing allows a problem to be identified, but it does not solve the problem.

When used properly, proficiency testing helps laboratories to report reproducible results and demonstrates the effectiveness of their quality system whilst providing a reliable independent assessment of their accuracy.

Laboratory testing plays a crucial role in ensuring efficient paper production and processing. The role that proficiency testing can play in monitoring the accuracy of these tests should not be underestimated.

### **CEPI-CTS testing explained**

The CEPI comparative testing service can provide an unbiased external assessment of your labs accuracy. The service is a quantitative, simultaneous scheme where proficiency test samples are distributed for concurrent testing by participating laboratories, with one or more measurements recorded from each sample. The service is offered on a continuous rolling basis and confidentiality of results is assured through the use of anonymous laboratory identification. The samples include a representative range of test levels for each assessed property.

Key features of the service:

- Tests to be performed and reported within 4 weeks
- Results processed in accordance with ISO/IEC 17043:2010 and ISO 13528
- Additional technical support available

If you wish to find out more about paper proficiency testing please consult one of the distributing laboratories.

For a comprehensive list of other non-paper testing proficiency schemes please also check: [www.eptis.bam.de](http://www.eptis.bam.de)

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