# TramQA

TRAM-QA is a versatile testing package, especially designed for the TRAM Testers equipment. Running on the MS-Windows platform TRAM-QA is extremely easy to use:

- with automatic storing of data and direct overview of the archive in a calendar
- automatic calculation of key-figures (makes it easy to control when outside tolerance)
- easy to handle many types of tests and products.

The screens viewed by the ordinary user are kept to a minimum of 3 screens resulting in a quick learning process. The screens depicted here below comprise a calendar, a spreadsheet and a curve.
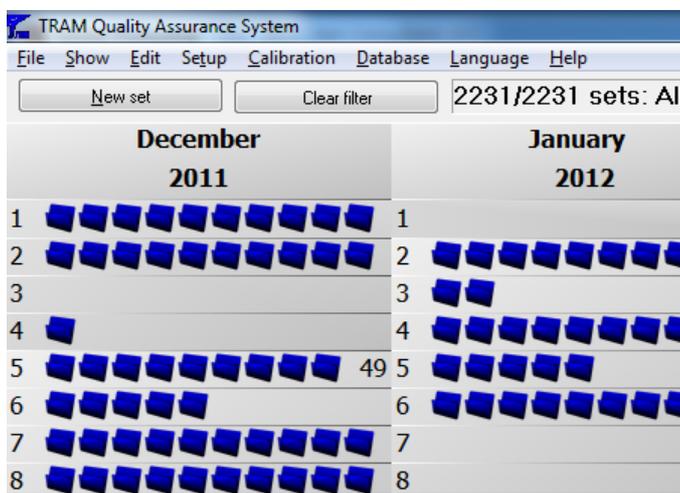
In the Calendar the sets of tests for the previous months are shown and here you can create new test sets.

In the top part of the Spreadsheet shared data for the individual test is visible (e.g. date, product information). The tests are recorded in the table below. The measurements, results and calculations displayed will be set to meet your individual requirements.

Compression		Method	EN 826
Production date	10-04-2012	Set creation timestamp	10-04-2012
Sample time	09-04-2012 10:50	Lamella dir	
P-load	5,0 kPa	Compression	14 %
Sample length	240,0 mm	Sample width	300,0 mm
		Aged	

nt	Density kg/m³	Deformation at P-load mm	%	σ_c kPa	σ_{10} kPa	σ_e kPa	
13	66	1,0	0,7	*	39,14	25,56	2,
09	66	0,8	0,6	*	37,97	23,49	2,
71	62	0,9	0,6	*	36,94	28,57	2,
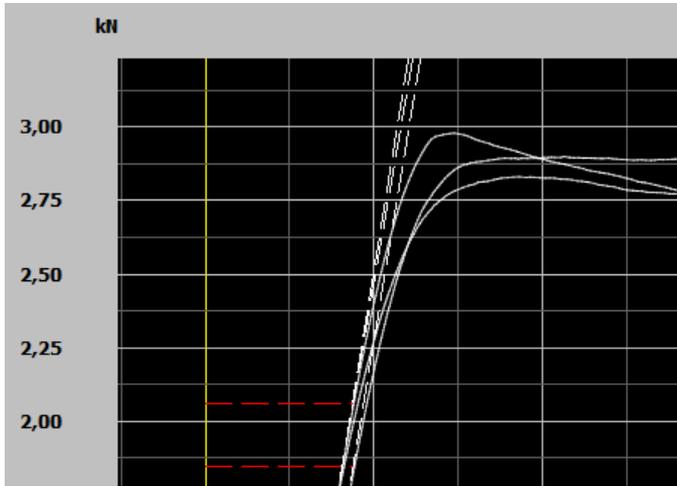
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In the Graph you get a visual image of the test data, enabling you to quickly recognize irregularities in your test products.

TRAM-QA not only controls the testing of products, but also creates a dated Log Book, display results in a Spreadsheet with specific formulas for the type of sample tested. Furthermore it can generate extensive Post Test Analysis. It also contains an easy-to-use editor for programming your own Test- Sequences for non-standard samples.

A special feature of TRAM-QA is the facility to include conditions in the test sequence. Even the sample weight can be included in the condition. This feature makes it possible to do non-destructive proof testing as part of a strength-testing programme, thus saving material. The test-sequence can also be set up for repetitive loading to a chosen condition.

Recommended PC-specification
- 2Ghz CPU
- 2Gb ram
- 80Gb hard disk
- 100/1000MBit Ethernet
- Microsoft Windows XP / Microsoft Windows 7
- Optical mouse

Bent Tram A/S

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Specification

Test history	Calendar, marked with tested sets of samples. The Calendar can be set to show only specific groups of tests using the filter property.
Test results	Test results are shown in spreadsheets with calculations specific for each product or test type. Each type of product has its own layout for the spreadsheet, including set up, formulas and printing of data. This pattern is produced according to your design, and in any language desired.
Testing of Sample	It is easy to set-up test sequences involving speeds (load, deformation etc.), load-cycling, various conditions etc. During testing an on-line curve e.g load/deformation is shown - together with the actual stage in the test.
Post Test facilities	Showing of test curves together with tangents for E-modulus, max. load, tolerances etc. Calculation on almost any parameter based on the curve. Spreadsheet of a set of tested samples where each line is a tested sample and calculated results. Both can be shown on the monitor, zoomed, and printed on paper or as a pdf-file.
Test Sequence Editor	Mouse controlled editor for making special Test sequence for controlling the machine. The Programming language contains selections and iterations. The commands for making the machine move are extremely versatile, and covers all possible needs.
Other facilities	Calibration of the load cells and other transducers, fully software based. Manual control of the machine with the PC keyboard. Optional individual post-test analyses providing automatic data analysis. Export of test results (tables and load/deformation curves) in a format, which can be read by virtually any spreadsheet or word-processor. Optional import of weight to TRAM-QA from a balance through the RS232 connection. Optional statistics-module enabling you to create control-charts of your quality data. Optional import/export module to databases (refer separate brochure)