

Quality Assurance Software

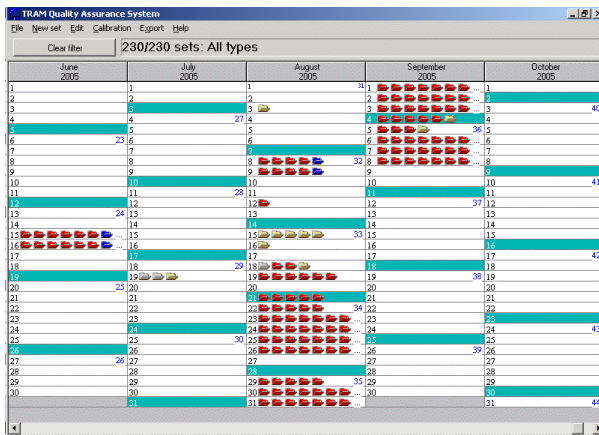
Logiciel pour l'Assurance de la Qualité
Software zur Qualitätssicherung

TRAM-QA

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.



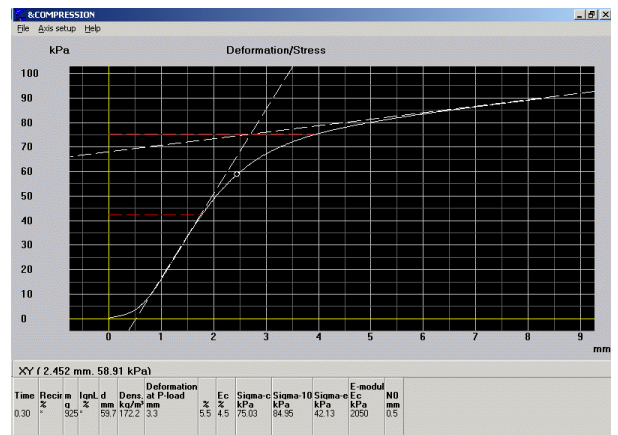
In the **Calendar** the sets of tests for the previous months are shown and here you can create new test sets.

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.

In the **Graph** you get a visual image of the test data, enabling you to quickly recognize irregularities in your test products.

The screenshot shows a spreadsheet view of test results. The top part contains test parameters and conditions. The main table lists test results for different time intervals (0.30 s).

Time	Recir	n	IgnL	d	Dens.	Deformation	at P-load	Ec	Sigma-c	Sigma-10	Sigma-e	E-modul
	%		%	mm	kg/m ³	mm	%	%	kPa	kPa	kPa	kPa
0.30	925		59.7	172.2	3.3	5.5	4.5	75.03	84.95	42.13	2050	
0.30	931		59.9	172.7	3.9	6.5	5.0	72.27	81.82	40.79	1858	
0.30	923		59.4	172.7	4.3	7.2	4.8	68.56	77.60	40.19	1775	
0.30	910		60.0	168.5	5.5	9.2	4.9	64.38	73.50	36.55	1667	
0.30	922		59.8	171.3	4.1	6.9	5.3	71.83	80.63	43.01	1781	



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.



QUALITY ASSURANCE

Specification

FACILITIES	TRAM-QA
PC-specification (minimum)	Processor 1 Ghz, 1Gb ram, 40 Gb hard-disk, one spare PCI-slot, mouse, 10/100 Ethernet, MS Windows XP pro/Vista
Log Book on Tests	Calendar, marked with tested sets of samples. The Log Book 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. Each set of samples tested can include up to 230 individual-samples.
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 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 (UP / DOWN / STOP). 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)

Specifications are subject to change without notice.

- ! TRAM-QA runs on a standard PC. It measures load/deformation up to **2 000** times/second, giving the best known resolution on such graphs and data analysis. The data is afterwards compressed on the harddisk to the minimum necessary to faithfully record the information.
- ! TRAM-QA together with one of a range of TRAM Testers can reduce your manufacturing/production costs and provide you with valuable data on your production quality.
- ! TRAM-QA is ideal for a wide range of compressive, tensile, flexure, peel, tear, impact and friction tests. Specific tests for plasterboard, paper, concrete, plastic, foam and many other materials/products are easily handled. The versatility of TRAM-QA makes it suitable for almost any material or product testing.
- ! TRAM-QA provides a fast, yet easy-to-use "automatic machine" for generating, filing and displaying quality data for a wide variety of products.
- ! TRAM-QA was made in close cooperation with the engineers who designed the TRAM Testers and the complete system is consequently 100 % reliable.
- ! TRAM-QA is supplied in your own language.
- ! The Windows platform provides a very easy-to-use environment, where most control can be done by mouse, with menus and buttons, or by keyboard by use of short-keys.

For realization of customized wishes please contact TRAM A/S.



TRAM A/S
Dinesensvej 20
DK-9000 Aalborg, Denmark
Phone: +45 98120499
Fax: +45 98132755
mail@tram.dk
www.tram.dk