MTS TestSuite™ TW Software

Efficient and versatile software for productive materials and component testing

MTS TESTSUITE TW SOFTWARE PROVIDES AN EASY-TO-USE AND ADAPTABLE SOLUTION FOR OPTIMIZING YOUR MATERIALS TESTING PRODUCTIVITY AND CAPABILITY. THIS VERSATILE SOFTWARE PAIRS SIMPLICITY WITH STANDARDIZATION AND FLEXIBILITY WITH FAMILIARITY, ALLOWING RESEARCHERS, DEVELOPERS AND MANUFACTURERS TO CREATE THE IDEAL ENVIRONMENT FOR THEIR SPECIFIC TESTING NEEDS.

Productivity You Can Build On

MTS TestSuite TW software enables the accurate and repeatable mechanical testing of materials, components and finished goods. It provides the versatility required to address unique and complex test requirements, along with the ease-of-operation required for efficient quality assurance and quality control testing. With this software, test engineers will have utmost flexibility to create and run tests, analyze data and report results in a way that matches their specific mechanical testing needs, now and well into the future.

Scalable Solution

Software that supports multiple technologies and test types, varying levels of operator expertise and wide-ranging geographical needs provides the ideal solution for adapting to future needs. With modifiable applications, templates and access levels, you will have the versatility required to meet your current needs and easily accommodate future requirements.

Support for multiple testing technologies, including electromechanical, static-hydraulic and servohydraulic systems, allows for lab standardization under a single software application. MTS TestSuite TW software features broad compatibility with industry-leading MTS digital controls and load frames. This includes the MTS Criterion™ and MTS Landmark® test system families, as well as MTS Insight® systems and load frames equipped with ReNew™ controller upgrades.

Efficiency Enhancements

This software offers several options for creating tests and a separate application for test execution, so you can divide these responsibilities in a way that makes sense for your organization. Test creation options range from base templates to get you started to complete freedom to design the test you want, allowing you to choose the best use of your time and resources.

MTS TestSuite TW software provides powerful tools for modifying existing tests or defining new tests. A visually intuitive flow-chart interface lets you assign activities with drag-and-drop simplicity, and an open environment allows calculation and flow modifications to all steps of the test. Iron Python programming compatibility supports the creation of complex calculations.

You can complement this software with other MTS TestSuite applications in your lab and still experience the productivity enhancements that come from a similar user interface and common user experience.

Global Standardization

Multi-language capabilities and hundreds of pre-packaged, test templates allow you to establish and maintain a truly global standardized testing methodology, while also improving lab productivity.

MTS TestSuite TW software applies drag-and-drop simplicity to allow for the monotonic or cyclic testing of textiles, plastics, metals, composites, adhesives, ceramics, foam and other materials, at both low- and high-force capacities.

MTS EM Tension (Simplified) : Project - 1 : TW Elite (Insight : (Simulator))
MTS TestSuite
tw elite
Test Editor
Setup
Drop Activities Here
Run
Auto Offset: Crosshead
Go To: 0 mm
Parallel Path: Ramp: 0 mm
Ramp: 0 mm
Data Acquisition
Limit Detection
Break Detection
Calculate Variables: Load Cal Capacity...
Parallel Paths
Custom Message Window: Return to zero?...
If-Else Condition R...
HP Compaq LA2205wg

The MTS TestSuite TW Software family is a set of applications and templates that you can configure to meet the unique needs of your test program. The offerings include:

» TW Elite (TWE)

» TW Essential (TWS)

» TW Express (TWX)

» Reporter Add-In

» Templates

Each of these elements can be used for a specific purpose within your organization. Buy only what you need, and allow your software to adapt with your test program.

TW Elite

With this powerful tool, you can create, edit and run tests with more flexibility than ever before. You can then tailor these test setups to make them even easier for your test operators to run.

If you have only a few individuals creating tests, and several more people operating tests, you can purchase a few TW Elite software licenses, and several more TW Express software licenses.

TW Essential

This application is designed to simplify and optimize monotonic testing. The software guides the user through each stage of the testing process with visually-intuitive screens, so that entering specimen parameters, signals and calculations is easy. Test creation is further streamlined with far few activities than are available in MTS TestSuite TW Elite software. Tests can be created and operated with this application.

TW Express

This application is designed for the test operator. It is used for running tests that were created with MTS TestSuite TW Elite or TW Essential Software. When using TW Express software, even the most complex tests are easy to operate, and there is no danger of things being changed from the original test design.

This application allows the operator to run tests and see the acquired data or calculated values in a user-configurable runtime view, so the operator can choose which aspects of the tests to monitor during the test. Operators may also interact with the test based on user-defined prompts that were created by the test designer.

Reporter Add-In

For easy report design and generation, there is a Reporter Add-In for use with Microsoft® Excel® that allows you to organize your raw data and create impressive reports with little time investment or manual intervention.

Templates

From the straightforward test to the extremely complex calculation, MTS test templates offer a wide array of solutions to reduce test creation time, streamline test execution and help you adhere to testing standards. We offer three types of templates to meet your testing needs:

» Base templates

» Advanced templates

» Custom templates

Base templates are included with the software application. MTS TestSuite TW software comes with five tensile, two flex, five peel/tear, and three compression templates that may be modified to meet specific needs.

For more sophisticated testing, you may choose to add MTS advanced or custom test templates.

Test Definition

Easily design tests according to your unique needs

MTS TestSuite TW Elite software makes it easier than ever to design a test. Its user-friendly interface allows test engineers to define tests intuitively, helping you make the best use of your valuable time and staff resources.

Test definition features simplify the creation, customization and sharing of templates for everything from routine to custom testing. Your technicians will be empowered to efficiently define parameters for the full complement of standard material tests, including peel, tear, sheer, tensile, compression, creep, cyclic and strain.

Test creation options

There are four quick and easy ways to create tests.

1. Use or modify a pre-packaged test template
2. Convert an existing TestWorks® 4 software method
3. Design your own test or template
4. Have MTS design a Custom Test Template

Timesaving, pre-packaged test templates

One of the easiest ways to test to established engineering standards is to use an MTS Advanced Test Template. A vast and ever-expanding library of pre-packaged test templates makes it fast and simple to run tests for these specifications.

The advanced test templates are easy to use and create a strong foundation for establishing a single, standardized testing methodology across geographically dispersed testing facilities. You can use these templates as they are designed, or modify them to meet your unique requirements.

These advanced templates can be purchased individually or in application-specific bundles.

Simple conversion of TestWorks 4

An integrated Method Converter automatically converts TestWorks 4 software test methods for use with MTS TestSuite TW software.

Fast, easy test design

Designing your own tests is visually intuitive. To transform a test plan into a test, simply "drag and drop" activities into the Test Editor workspace that creates a clear graphical depiction of the entire test sequence. Add, remove or rearrange activities at any time, including steps with multiple parallel paths.

You can include variables with any step, such as sending an e-mail with test results when a particular activity is complete or prompting an external sequence to run during a certain point during the test. Other notes, such as installation instructions or safety information, can also be incorporated directly into test design, helping to simplify test execution for less-experienced operators.

A built-in open source programming language, Iron Python, allows for the creation of more advanced tests. You can create multi-line programs for involved calculations, including "if-else" statements and calls to external routines.

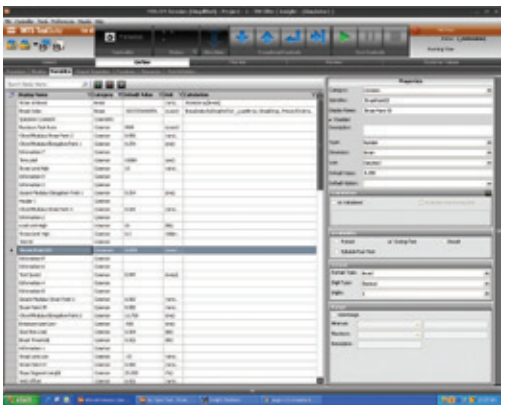
Test activities execute from top to bottom in Test Editor, and simultaneously within parallel paths. To minimize errors and save time, red error icons appear next to any item in real time whenever a user-defined calculation is incorrect or information is missing. For tests involving servohydraulic load frames, a resource mapping feature allows for simple cross-system portability.

Ability to meet custom requirements

Faced with a set amount of staff resources and increasing test volume, many test engineers turn to MTS consulting services for help in developing customized test templates to meet their material testing needs.

MTS custom test templates can be affordably created to meet the test flow, analysis and reporting requirements of even the most challenging applications. This service helps to optimize cost-efficiency by freeing lab personnel to focus on testing rather than test and report design. It also helps you get the most from your MTS TestSuite TW software investment.

MTS custom templates are delivered via e-mail, typically within 10 business days. Every template includes 30 days of free technical support to ensure your satisfaction.



Variables can automatically be added throughout a test, such as prompting an e-mail to be sent after a specific sequence is completed.

Sample of the many Metals test standards that can be addressed using MTS TestSuite TW templates	
STANDARD	DESCRIPTION
ASTM E8M	Standard Test Methods for Tension Testing of Metallic Materials
ISO 6892-1	Metallic Materials – Tensile testing at ambient temperature
EN 10002-1	Tensile Testing of Metallic Materials
ASTM E9	Standard Test Methods of Compression Testing of Metallic Materials at Room Temperature
ASTM E290	Standard Test Methods for Bend Testing of Material for Ductility
ISO 7438	Metallic Materials – Bend Test
ASTM E21	Standard Test Methods for Elevated Temperature Tension Tests of Metallic Materials
ISO 783	Metallic Materials – Tensile testing at elevated temperature
ASTM E517	Standard Test Method for Plastic Strain Ratio r for Sheet Metal
ASTM E646	Standard Test Method for Tensile Strain-Hardening Exponents (n-Values) of Metallic Sheet Materials
ASTM A48M	Standard Specification for Gray Iron Castings
ASTM A370	Standard Test Methods for Mechanical Testing of Steel Products

Sample of the many Polymer test standards that can be addressed using MTS TestSuite TW templates	
STANDARD	DESCRIPTION
ASTM D790	Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
ASTM D412	Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers – Tension
ASTM D624	Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers
ASTM D638	Standard Test Method for Tensile Properties of Plastics
ASTM D695	Standard Test Method for Compressive Properties of Rigid Plastics
ISO 178	Plastics – Determination of flexural properties
ISO 1798	Flexible cellular polymeric materials – Determination of tensile strength and elongation at break
ISO 527	Plastics – Determination of tensile properties
ISO 604	Plastics – Determination of compressive properties
ASTM D882	Standard Test Method for Tensile Properties of Thin Plastic Sheeting

Sample of the many Construction Materials test standards that can be addressed using MTS TestSuite TW templates	
STANDARD	DESCRIPTION
ASTM A370	Tensile Testing & Bend Testing Steel Rebar
ISO 15630	Steel for the reinforcement and pre-stressing of concrete – Test methods – Part 1: Reinforcing bars, wire rod and wire
ISO 1920-4	Testing of concrete – Part 4: Determination of flexural strength; Determination of tensile splitting strength
ASTM A185/ A185M	Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete
ASTM A615M	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A82/ A82M	Standard Specification for Steel Wire, Plain, for Concrete Reinforcement
EN 10080	Steel for the reinforcement of concrete. Weldable reinforcing steel
ISO 15630-2	Steel for the reinforcement and pre-stressing of concrete – Test methods – Part 2: Welded fabric
ASTM F606	Standard Test Methods for Determining the Mechanical Properties of Externally and Internally Threaded Fasteners,

Sample of the many Polymer Matrix Composite test standards that can be addressed using MTS TestSuite TW templates	
STANDARD	DESCRIPTION
ISO 527-4	Tensile Properties of Isotropic and Orthotropic Fibre-Reinforced Plastic Composites
ISO 527-5	Tensile Properties of Unidirectional Fibre-Reinforced Plastic Composites
ASTM D3039	Tensile Properties of Polymer Matrix Composite Materials
ISO 14126	In-plane Compressive Properties of Fibre-Reinforced Plastic Composites
ASTM D6641	Compressive Properties of Polymer Matrix Composite Materials Using a Combined Loading Compression (CLC) Test Fixture
ISO 14125	Flexure Properties of Fibre-Reinforced Plastic Composites
ISO 14129	In-Plane Shear Stress/Shear Strain Response of Fibre-Reinforced Plastic Composites
ASTM D3518	In-Plane Shear Response of Polymer Matrix Composite Materials
ISO 14130	Fibre-Reinforced Plastic Composite – Determination of Apparent Interlaminar Shear Strength by Short-Beam Method
ASTM D2344	Short-Beam Strength of Polymer Matrix Composite Materials and Their Laminatess

We can provide pre-packaged templates for a wide array of additional materials, including:
textiles, paper products, packaging, adhesives, foam, composites and more.

Test Execution

Run, monitor and modify tests with ease

Runtime operation has never been so simple. With MTS TestSuite TW software, screens are clean, clear and easy to understand. All functionality is available when and where you need it.

To execute a test, operators simply choose a test and then follow the interactive menus. The configurable test monitor display allows for superior control of what the user will see during a test. The screen can be subdivided into tabs that allow selection from multiple views to productively manage what the user will see while the test is running.

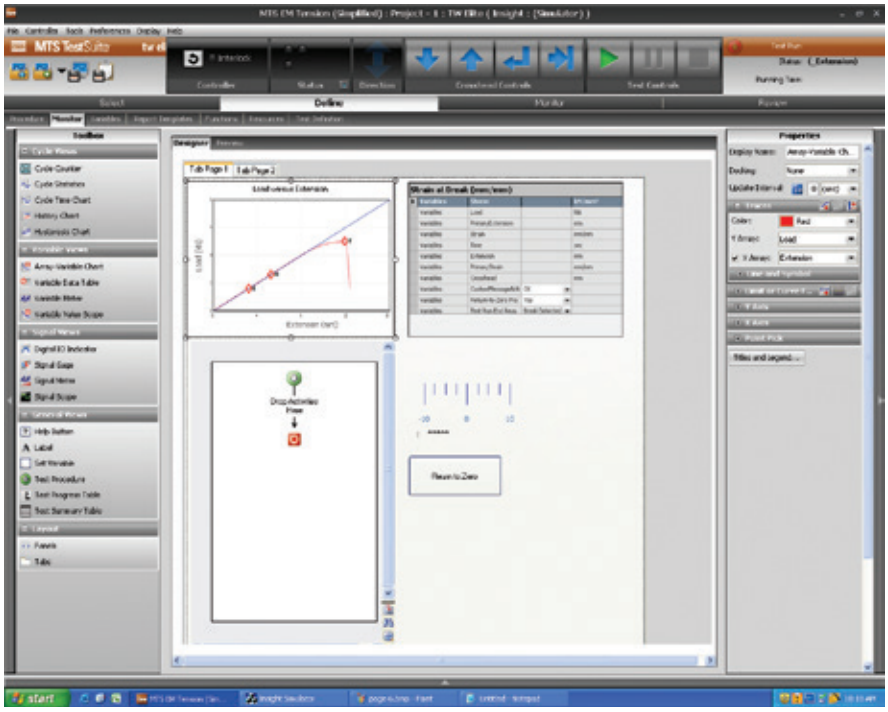
The Test Editor view enables simple real-time monitoring of test progress, clearly identifying finished activities from current activities and those that have not yet begun.

Superior runtime flexibility

From the Control Panel that is always top and center, MTS TestSuite TW software allows your test operators to perform start/stop, jog, go-to, return, pause and other key functionality. Supported control modes are displacement, load, strain or any data channel. Environmental chambers and a number of other external devices are supported as well.

Simulate results without damaging specimen

MTS TestSuite TW software features a simulation mode that lets you run a "virtual test" without using – or damaging – a physical test specimen. Simply choose a standard specimen and define parameters for it, and then set up a simulated mechanical test that yields physically meaningful test data. It is a convenient way to validate your test setups before you test, saving valuable time and money.



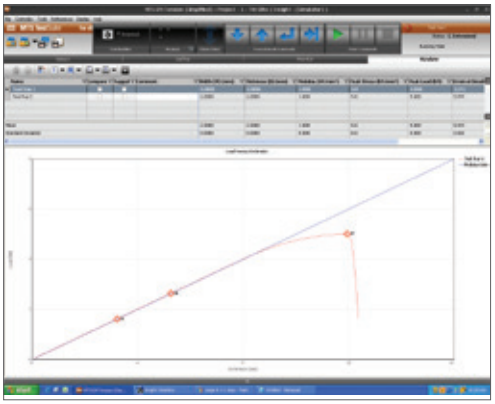
Runtime Display features multiple tabbed views and a convenient toolbox of elements to simplify real-time monitoring and modification of tests in progress.

Analysis

Gain new levels of insight from your post-test data

MTS TestSuite TW software complements simple test design and execution with robust capabilities for interacting numerically and graphically with your post-test data. You will get the most from your test results with intuitive displays and flexible, interactive data plots, and have full freedom to explore "what if" scenarios by adding variables, calculations, tables or charts.

Integrated analysis tools include movable markers, text and construction lines, along with the ability to zoom in on any region of interest for closer inspection. You can even contrast multiple graphs of the same post-test data simultaneously for deeper insight into test specimen properties. Imagine the process verification advantages of comparing a force-versus-displacement plot to a displacement-versus-time or force-versus-time plot, for example.



Interactive markers, text and construction lines enable operators to flexibly plot data and zoom in on an area of interest at any time.

Intuitive displays and flexible, interactive data plots simplify post-test data analysis for operators at every skill level.

Reporting

Create standard reports during or after tests, with the option to add more post-test reporting capabilities

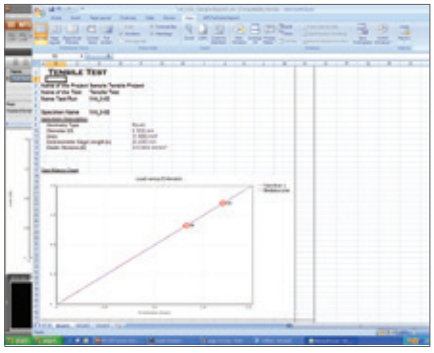
MTS TestSuite TW software equips you with flexible tools for presenting and sharing test data through detailed runtime reports. You can output test results via a user-friendly standard report template.

Integrated runtime reporting capabilities allow you to efficiently export test results to Excel and ASCII formats.

Robust post-test reporting option

For more detailed reporting functionality after a test has run, choose the MTS TestSuite Reporter Add-In for Microsoft Excel. This optional standalone module gives you absolute flexibility to create report templates and generate custom and standard reports from existing post-test data, as a process independent from testing itself. You can produce publication-quality documents comprising numbers, text, charts, and calculation results from MTS TestSuite software or Excel analysis and charts—no post-processing required. An interactive editor lets you drag and drop test data links into Excel with ease.

When you create a new report using the Reporter Add-In, placeholder values are replaced by data and images from an actual completed test or analysis run. This modular approach allows you to start with the same template for multiple similar tests, and use "Save As" functionality within Excel to build a library of time-saving report designs over time.



Easily create a report against a defined template as part of a test.

Compatibility

Designed for use across a spectrum of test platforms

MTS TestSuite TW software works across a wide range of operating systems, controllers, load frames and peripheral devices. Combined with robust test template creation capabilities, this broad compatibility is vital to helping you establish and maintain a single, truly global testing methodology.

Part of a modular, productivity-enhancing software family

MTS TestSuite TW software is one of an ever-expanding selection of applications, modules and options comprising the MTS TestSuite software family. All MTS TestSuite software features productivity you can build on. Buy only what you need today, with freedom to easily and affordably expand your capabilities as your test program evolves.

MTS TestSuite TW Compatibility

OPERATING SYSTEMS

- Windows® XP
- Windows 10
- Windows 7

COMPATIBLE ELECTROMECHANICAL TEST SYSTEM CONTROLLERS

- MTS Insight
- MTS Criterion
- Others

COMPATIBLE SERVOHYDRAULIC TEST SYSTEM CONTROLLERS

- FlexTest® 40, 60, 100, 200
- FlexTest SE
- FlexTest GT

COMPATIBLE UNIVERSAL TEST SYSTEMS WITH RENEW UPGRADE

- Instron® EM Test Systems
- SATEC™ EM Test Systems
- Zwick® EM Test Systems
- Synergie
- Alliance
- QTest
- Others

COMPATIBLE SERVOHYDRAULIC TEST SYSTEMS

- MTS Landmark
- MTS Model 311 and 322
- Others

COMPATIBLE STATIC-HYDRAULIC TEST SYSTEMS

- MTS Criterion
- Others

COMPATIBLE EXTERNAL DEVICES

- Video Extensometers
- Laser Extensometers
- RS232/485 (MODBUS Protocol)
- Eurotherm Controllers (furnaces and environmental chambers)

Unmatched Global Service and Support

Realize the greatest possible return on your MTS TestSuite TW software investment

MTS is committed to your testing success. With one of the largest, most experienced worldwide service, support and consulting staffs of any testing solution provider, we stand ready to maximize your laboratory's productivity and help you complete test programs as quickly and efficiently as possible.

MTS global service and support includes custom test template development services to help you fulfill your most demanding test challenges, and Software Support Plan (SSP) agreements to ensure the viability of your MTS TestSuite TW software investment well into the future.

MTS Custom Test Templates

MTS Custom Test Templates help to accelerate the test definition process by employing MTS consulting services to develop customized test flows, report templates and export templates. Crafted to perform to your exact specifications, MTS Custom Test Templates include up to 30 days of free technical support to ensure that your unique test requirements are met completely.

Training courses

MTS offers standard and custom training courses that can be delivered at our Regional Training Facilities or at your site. Software training is hands-on with ample time for skill practice and asking questions.

Responsive field service

MTS field service offers a proven means of maximizing your uptime and keeping you running as productively as possible. Extensively trained MTS field service engineers are strategically located around the world to provide prompt, technically competent responses to your needs, no matter where or when you need them.

Comprehensive customer support

Choose from a variety of support options to meet your needs. Whether providing assistance with test setup, answering questions about software, or just helping get the job done, our experienced support engineers can help you keep your test lab running smoothly.

SSP agreements

As the needs of your industry continue to change, you can count on MTS to keep your test software on the cutting edge. The easiest and most cost-efficient means of keeping your MTS TestSuite TW software current is an MTS SSP agreement. Over time, this agreement costs less than purchasing upgrades and updates separately, and it makes your budget easier to manage with a low fixed cost.

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