

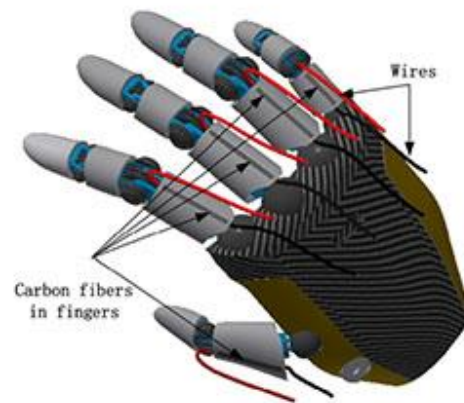
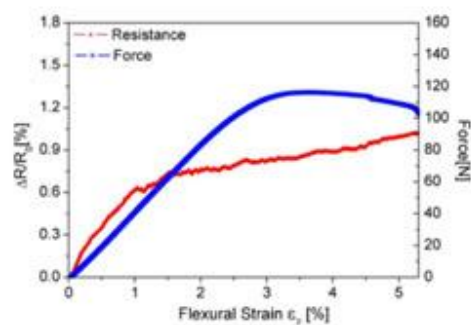
Newsletter At-A-Glance:

- [Research Highlight – Carbon Fiber 3D Printed Structures](#)
- [New! DMA Application Software v8](#)
- [New Tech Tips – DMA Application Software v8](#)
- [Now Even Better! – ElectroForce 3200 Axial-Torsion](#)

Research Highlight – Carbon Fiber 3D Printed Structures

Enhancing strength and adding sensing to additive manufactured structures.

Additive manufacturing, also known as 3D printing, is changing what's possible in product design. It brings exciting new possibilities, but also introduces less understood variations in mechanical performance. Characterizing both materials and printed structures has never been more important and enlightening. A recent publication from Zhejiang University includes the use of our ElectroForce TestBench Instrument to characterize the strength improvements of embedding carbon fibers into a structure of FDM-printed polylactic acid (PLA). Additionally, they developed and investigated a self-monitoring system in the composite material which introduces exciting possibilities of smart structures, including their example of a strong and smart artificial hand. Follow the link below to access the publication and learn more about their research.



[Access Full Paper](#)

New Product Announcement – DMA Application v8

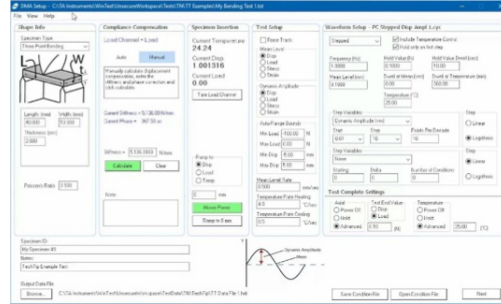
Major improvements for DMA tests on ElectroForce instruments!

We are excited to announce the new Dynamic Mechanical Analysis (DMA) Application v8 for WinTest and ElectroForce Test Instruments. It delivers many enhanced capabilities and powerful features including:

- *Temperature Ramp* is the most common method of measuring material changes as a function of temperature, typically for identifying glass-transition temperature, T_g , and

other transitions associated with molecular relaxations.

- *Timed Test* that enables users to measure viscoelastic properties of a material, such as Storage Modulus, Loss Modulus and Tan Delta, as a function of time under constant oscillation conditions. This is highly useful in evaluating mechanical aging or curing processes.
- *Advanced Adaptive Control* mode that delivers precise tuning-free control of applied oscillations even during large changes of material properties, such as those occurring during temperature ramps.
- *Force Track* maintains sample preloads in proportion to forces generated from applied displacements to avoid buckling in tension tests and maintaining specimen contact during compressive tests, extending data accuracy by minimizing creep effects.
- *Auto-Range Bounds* enables a test to continue to execute when samples would otherwise exceed force or displacement limits.
- *Compliance Compensation* increases the accuracy of deflection measurements and therefore further extends the capabilities of ElectroForce instruments for measuring high-modulus materials or high-stiffness material geometries.
- *TRIOS* is leveraged for plotting and analysis via an automatic data transfer from WinTest DMA to TRIOS.



This software application and its features are important for the superior performance of [the new DMA 3200](#), and have recently been released for other ElectroForce instruments. This version is available both for new instruments and existing in-field units. Contact us for more information or to request an upgrade.

[More Information](#)

New DMA Tech Tips

Seven new DMA 8 Tech Tips have been created to provide an overview plus more detailed review of the features of DMA 8.

1. An Introduction & Overview of WinTest DMA Software v8
2. Specimen Type Configuration
3. Configuring Compliance Compensation
4. Application of the Specimen Insertion Utility
5. Completing the Test Setup Panel
6. Configuring the Waveform Setup Panel
7. Temperature Ramp & Time Test Setup



[Watch Tech Tips](#)

New Product Technology – 3200 Axial-Torsion

A new torsion solution featuring best-in-class HADS sensor plus Torsion TunelQ!

One of the many configurations of our highly-flexible [3200 Instrument](#) is Axial-Torsion. Equipped with a 5.6 Nm Torsion motor, the 3200 Axial-Torsion is available as two different models: 3220-AT and 3230-AT with axial loading capacities of 225 N and 450 N, respectively. We're happy to announce the addition of High Accuracy Displacement Sensor (HADS) to the torsion motor - improving resolution by 2000x. The torsion motor with HADS sensor also delivers faster response, lower noise, and 10X improved accuracy. The new sensor, combined with WinTest's advancements of TunelQ for Torsion and expansion to 62-turns, delivers dramatically better performance, range and ease-of-use than before.



The new HADS sensor solution is standard on 3200-AT instruments, but is also now available as an in-field upgrade to any 3200-AT Series III instrument.

[More Information](#)

Promotions

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Save 20% on Parts & Accessories

[Details](#)



Academic Matching Grant Program

[Details](#)

**Promotional offers valid until December 21, 2018.*

Upcoming Events

Free Online WinTest Training

January 2019 - TBD

[Register Now](#)

Materials Research Society Fall Meeting

November 25th - 30th

Boston, MA, USA

International Conference for Innovations

December 2nd - 4th

Tel Aviv, Israel

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