

# Newsletter

*December 21, 2011*

## **INDEPENDENT VALIDATION OF THE XL VIT**

As everybody concerned with walkway safety and meaningful tribometry should know by now, any confusion is ended about whether or not there is a viable tribometer in the world of walkway safety. **EXCEL TRIBOMETERS, LLC**, performed all requisite testing that demonstrates **full performance compliance** of both models of the XL VIT with the requirements of **ASTM F2508** Standard Practice for Validation and Calibration of Walkway Tribometers Using Reference Surfaces. The Reports of Validation for both machines and more detailed discussions are on the **EXCEL TRIBOMETERS, LLC**, website.

Even **better yet**, Applications Engineering Group, Inc., recently let us know that they acquired their own set of the ASTM “adjunct tiles” references surfaces specified in F2508. They performed the arduous F2508 validation protocol with their machine and their test foot, and they **independently validated** the XL VIT with Sequencer. There definitely is no question now that the XL VIT instrument is valid, accurate, and repeatable.

## **IF ALL ELSE FAILS----READ THE INSTRUCTIONS!!!!**

The days are over of using your XL VIT “your way,” even though you always have and always will get meaningful results that are appropriate, proper and accurate for relative ranking of practical slip and fall injury risk. In today’s critical arena, we must all get the same statically analyzed and statistically significant results. To do that, we must all follow the same protocol. We all must study and practice our techniques as defined in the [User Guide](#). It is not only easy, it is necessary. When you follow the instructions, you too will get valid, accurate, and repeatable results.

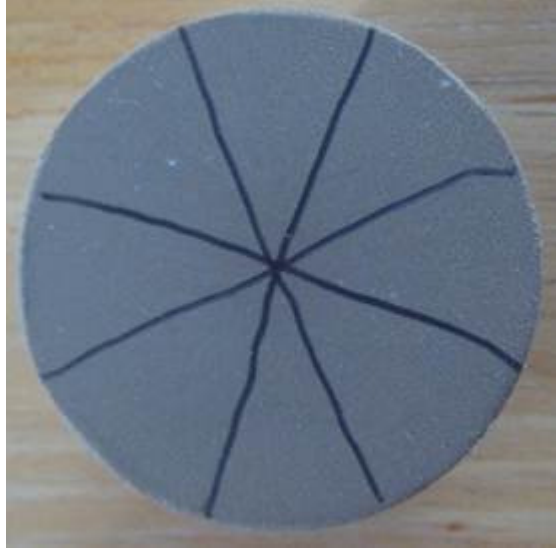
On this point, we recently had a discussion with a long-time XL VIT user about his measured values on his TCNA calibration tile. It was suggested to him that his values on his tile are actually a reflection of his sanding technique, not the tile. He was asked whether he sanded the test foot on the machine or off the machine. He said the results were the same regardless of whether the test foot was on or off the machine. It was explained to him that the flatness of the test foot will move the slip index reading up and down, and that the way you hold the test foot during sanding defines how flat you will sand the test foot. He said “I

don't see how this affects anything – flat is flat...” He asked us to verify his readings when we received his slipmeter for Annual Instrument Calibration, and to certify the value on his calibration tile.

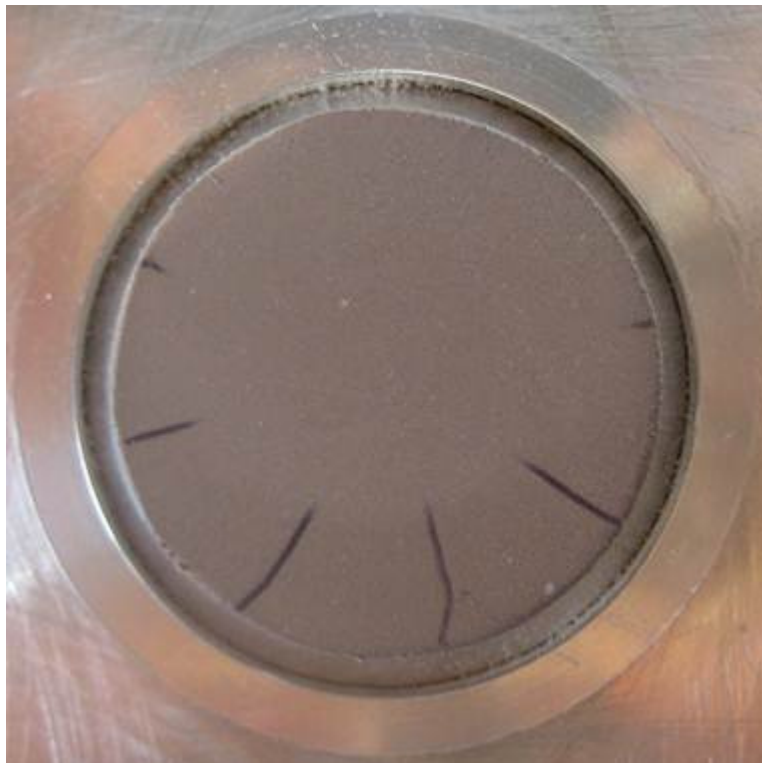
So, before servicing his slipmeter, his test foot was sanded 5 circles on our sanding block (with a medium hold so as not to change the shape of the test foot surface) and we began the test foot calibration procedure according to the current User Guide. Our calibration tile was measured as an average of 0.35, and his tile was measured as an average of 0.34 with his test foot on his machine. Here is a photograph of his test foot face-down on a calibration tile.



As you can see, the test foot is noticeably domed. This was a good opportunity to measure how much sanding it takes to bring this kind of test foot to 'flat' using a prototype 5" Sander (standard test foot preparation device) we are developing exactly for this issue. Since it is difficult to actually see how much of the test foot face is being sanded, lines were drawn with a pen on the face of the test foot so we could see how much of the surface was actually being sanded.



After 50 circles of the test foot in the 5" Sander, the test foot surface looked like this...



As you can see, only a portion of the test foot surface was in contact with the Sander, only removing material from one region of the test foot. After 50 more circles, the test foot surface looked like this...



As the foot gets flatter, the sanded area is growing. 50 more circles...



Still not the entire face, 50 more circles...



Now, close to sanding the whole face. 50 more...



Very close to all flat and the whole face being sanded, but there is still a tiny spot of ink at the 9 o'clock position. 50 more circles...



YAY! We're done after 300 circles in the 5" Sander. The test foot is perfectly flat.

Our calibration tile now averages 0.10, and the user's tile averages 0.10 (actually 0.0975).

As you see, the 5" prototype Sander currently produces a perfectly flat test foot, which is not the ultimate goal of test foot preparation; we have not seen that the heel contact area of any person's footwear in a real-world slip and fall injury event was perfectly flat. A meaningful tribometer that accurately assesses the risk for human slip and fall injury should manipulate the contaminant squeeze film as much like a heel contact as possible, which depends in part on the shape of the heel contact area. That is why the ultimate test foot calibration value from a standardized test foot preparation device is in the range of 0.15 to 0.20; which is not perfectly flat for the XL VIT test foot. A prototype 3" Sander is being developed to produce that value.

There are important facts derived from this testing:

- Domed happens !
- It takes a LOT of **proper sanding** to flatten a domed test foot.
- Flat is a relative term.



- The only way to know you are sanding the test foot properly is to calibrate the test foot by following the protocol in the current [User Guide](#).
- To get accurate, repeatable results, machine to machine, operator to operator, all test feet must be prepared in the same way.
- All XL users, even our most loyal and supportive users, must read and follow the current [User Guide](#) to get accurate, repeatable results.
- Everyone must read and understand the discussions on point in the EXCEL TRIBOMETERS, LLC, ([Newsletter Sept. 30, 2011](#), [Newsletter Aug. 18, 2011](#), [Newsletter Oct. 14, 2010](#) ).

The most important fact is that it is easy for us all to achieve accurate, repeatable results if we study and practice our techniques as defined in the User Guide. It is not only easy, it is necessary.

### **F2508 CALIBRATION**

Do you need to have the F2508 Calibration performed on your XL? The best answer is “it depends.” If you are in an environment where you need to represent you have an ASTM F2508 Validated walkway tribometer, then “yes” you need to have a current F2508 Calibration, since F2508 [Calibration](#) is part of the F2508 [Validation](#) process, as defined in the standard practice. The interval for F2508 Calibration is annual, as defined in the standard practice. Click here for a more extensive discussion ([Newsletter Sept. 30, 2011](#)).

EXCEL TRIBOMETERS, LLC, offers F2508 Calibration for those who request it at the time of purchase of a new instrument for \$750.00. For F2508 Calibration at any other time for any XL VIT, the fee is \$950.00. Due to the extensive testing required, please call ahead to schedule your F2508 Calibration.

### **XL VIT F2508 TREADED-MODEL TEST FOOT**

The ASTM F2508 Validation of the XL VIT was conducted using the XL VIT F2508 treaded-model test foot to accommodate the F2508 test contaminant conditions on the F2508 reference surfaces. Click here for a detailed discussion of the science behind the XL VIT F2508 treaded-model test foot ([Newsletter Sept. 30, 2011](#)).

The prior studies and peer-reviewed publications that correlated the relative ranking of slip and fall injury risk used the standard (non-treaded) XL VIT test foot. The standard (non-treaded) XL VIT test foot remains appropriate, proper and accurate for relative ranking of practical slip and fall injury risk.

**CXLT REGISTRY: CXLT'S---PLEASE STAY CURRENT !!!**

The CXLT certification has become such a **recognized, respected** and significant credential in the world of walkway safety and meaningful tribometry EXCEL TRIBOMETERS, LLC, is regularly contacted by attorneys and other parties to verify whether people representing themselves in court as CXLT's actually are, and to see if they are current and in good standing.

Please check and make sure you are current. We do our best to send out reminders to alert you when the renewal process should be completed, but if your contact information changed, you are on your own to renew. Please make sure you keep us up to date with your contact information.

Unfortunately and regretfully, a few CXLT's are **revoked** every month for not renewing. Hopefully, they no longer need to be a CXLT; otherwise, they have lost a credential that is increasingly more important.

**FEBRUARY CXLT PROGRAM – ATLANTA, GEORGIA.**

The world of walkway safety and meaningful tribometry is more challenging every day. Risk management and loss control is more significant in today's economy, and everyone knows the cost of slip and fall injuries is gargantuan. Court challenges to the validity of the meaning and measuring of slip resistance are more insidious, and are based on misinformation and misunderstanding.

The CXLT program was started in 2001 as certification in "Using the English XL Expertly." Today, the CXLT program gives you more than expertise in the operation of the XL VIT. State of the art sciences related to walkway safety and meaningful tribometry are offered to arm a current CXLT with the knowledge to evaluate the validity of any tribometer, and to provide a solid basis to perform competent slip resistance analyses, and achieve **meaningful evaluations** of practical slip and fall injury risk.

The next **CXLT Certification Program** will be conducted by EXCEL TRIBOMETERS, LLC, on Wednesday, February 1, 2012, in Atlanta, Georgia, at the Atlanta Marriott Downtown where a block of rooms has been reserved at a special rate.

The CXLT Program was originally planned for Sunday January 29, 2012, but was rescheduled to allow for those interested to attend the special ASTM F13 standards development meetings important to walkway safety and meaningful tribometry (Certified Walkway Auditor programs and Tribometer Certification) on Sunday January 29, 2011. The Wednesday February 1, 2012 date for the CXLT Program is after the regular F13 Committee meetings on Monday and Tuesday.



Space at the hotel and in the Program is limited, so be sure to send in your Program registration and **reserve early**. Contact the hotel directly for room reservations at 1-800-228-9290.

The current program is constantly being improved to maximize the value for your investment, with expanded sciences and extensive hands-on instruction with the instrument. First time CXLT program participants, very experienced XL users who wanted a refresher, as well as CXLT's who chose to retake the course and the test to maintain their current status have all touted the program.

- “The case studies presented provided insights into how to address other factors that may affect required slip resistance.” - J.H. (Current CXLT)
- “The hands-on part was very good – it is good to get feedback on my technique from those that have so much experience with the equipment.” - R.M. (Current CXLT)
- “Superb. Your outfit is very professional and committed to the science and working with the users.”... “you are real engineers that I can relate to.” - S.P. (Current CXLT)
- “... this program focused on the most important points rather than spending a whole day on flooring materials identification, etc. as other courses do. The program seemed very well-organized and well-run.” - B.R. (New CXLT)
- “Good value and good balance of information for those who are new vs. those who have been doing this for a while.” - A.F. (New CXLT)
- “It fully met my expectations. I've been in other topics seminars, but this one is my favorite by far.” - O.A. (New CXLT)

Of course, we encourage anyone who owns an XL VIT who has never taken the program to please do so in order to ensure your compliance with both the understanding of the science and principles of walkway safety and slip resistance metering, as well as proper and accurate use of the XL VIT. Please consider the importance of your participation.

Holding the CXLT certification assures your **recognition and respect** as an expert who is knowledgeable, competent, and proficient in walkway safety, meaningful tribometry, and in the use of the XL VIT. Anyone who wants to perform a competent risk assessment of a walkway, or evaluate flooring and footwear products, needs to establish a strong foundation in the principles of safety engineering, the sciences of walkway safety, the scientific and mechanical

aspects of the available slipmeters, and the effects of reasonably foreseeable variables on the performance of walkways and slipmeters. The certification also shows the CXLT had extensive hands-on instruction in the proper use of the XL VIT and proved his or her proficiency with the most respected slip meter.

Make sure you review the **updated and expanded** CXLT Certification Program on the EXCEL TRIBOMETERS, LLC, website. Also please keep in mind on-site programs are available if you are one of the many organizations that have a large staff who are interested in tribometry and walkway safety.

### **NEW CERTIFIED XL TRIBOMETRISTS**

The November 2011 CXLT Program again received strong support and rave reviews. The new and returning CXLT's who are now entitled to use the CXLT designation are listed below and on the website ([click here for the CXLT Registry](#)). Congratulations to all.

Scott Anderson	Forensic Engineering, Inc
Eris Jurado Barillas	WEXCO International
Paul James Bennett	Knott Laboratory
Marc Burrell	WEXCO International
Donna M. Canale	Rimkus Consulting group
Samuel J. Coffee	Rimkus Consulting group
Joseph Cuadrado	Exponent
Anthony C. Geach Jr	Vollmer-Gray
Christopher R. Grubbs	Rimkus Consulting group
Bo Johan Ivarsson	Exponent
Thomas A. Jennings, P.E.	Jennings Forensic Services
William Martin	Robson Forensic
Timothy L. McCarty	OneBeacon Insurance
Marie Moralde	Exponent
Elizabeth Moreland	Zurich Services Corp
Tom Parco	Rimkus Consulting group
Maciek Rupa	National Roofing Contractors Association
Lenka Stepan	Guidance Engineering
Terry C. Taylor	HAAG Engineering
Sam Kodsi	Kodsi Engineering Inc
Steve Garvy	Zurich Services Corp

**INSTRUMENT CALIBRATION AND REFURBISHING SERVICE**

Your XL VIT is a scientific instrument and requires regular instrument calibration and refurbishing, as with any similar credible metering device. Starting in January, 2012, the fee for XL VIT instrument calibration, if you are on time, is \$250. For those of you who are not current and your slipmeter is overdue, we are offering new standard pricing of \$350 plus parts, which encourages overdue XL VIT users to bring their instrument up to date. The XL VIT instrument calibration is **not the same** as the F2508 calibration, which is not the same as the F2508 validation testing and reporting. The extensive testing, on the four (4) reference surfaces, with special cleaning procedures and reagents, and the required calibration reporting, are all much more extensive than the XL VIT calibration and refurbishing.

Please keep in mind that if you maintain your tribometer by sending it for the XL VIT instrument calibration service at the proper intervals, **we will repair anything** within 6 months following service, for shipping costs only, unless there is clear evidence of physical abuse or extraordinarily extensive use. Some machines are shared by many and used constantly. Those slipmeters need servicing more often.

Be careful when packing and shipping your instrument. The most common form of abuse is from poor packing. See the [Instrument Calibration](#) page on the EXCEL TRIBOMETERS, LLC website for the recommended shipping methods. A custom fit Pelican Hard Case is available for your XL VIT on the website.

Note our updated mailing address that provides a more secure facility for receiving your equipment.

We **value your input** and questions, and look forward to hearing from you. All of your comments and concerns are welcome and will be thoroughly addressed. Your communications are treated with respect, and kept in the strictest of confidence. You may contact Peter directly at 757-897-2853, or by email at [pwidas@EXCELTRIBOMETERS.com](mailto:pwidas@EXCELTRIBOMETERS.com).

Thank you for your participation in the continuing efforts for advancements in the field of walkway safety and meaningful tribometry.

George P. Widas, PE, CSP, CXL, President and CEO, and  
Peter Widas, BSMSE, CXL, Vice President, Chief Operating Officer

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