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# Calibration Corner

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Issue 3

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*A Distinguished Window into the Rough and Tumble World of Calibration*

## Let's Talk About Specs

If you thought last newsletter's update on the latest ISO 17025 standard was a mile-a-minute thrill ride, you better get your term life insurance up to date because we're about to blow your mind (...and that's not even including the bonus of the headline referencing a hit song by everyone's favorite early 90s hip hop power duo!).

Like several things in the world of calibration, the idea of "specifications" sometimes has different meanings to different people in different situations:

Some people refer to different types of ISO requirements, or AMS 2750, or NADCAP as "specs."

Some people refer to the different setpoints that a customer requires an item measured at (e.g., calibrating a pressure gauge at 100 psi, 300 psi, and 600 psi) as "specs."

Big picture from a technical calibration sense: specifications communicate the expected allowable limits for a group of the same kind of finished product – like Manufacturer Z's line of Model ABC 6" calipers, all of which would have the same allowable variation – or *specification* – for the readings. (As an aside, there are two general types of specification limits like this: one-way,

which permits variation only in one direction from the desired value, or two-way, which allows variation of a certain amount in either direction.)

Often, you'll hear the term "tolerance" used in place of "specification." However, the tolerance of something really refers to the quality design limits of an item in the manufacturing process. After calibrating an item that fails, technically it's more proper to say that the measurement was "out of specification" than "out of tolerance." But given how commonly it's said incorrectly, it's probably not exactly a battle worth fighting!

There are literally chapters written on the topic of specifications in calibration textbooks...so if you're so inclined – and have nothing better to do with your life – you can learn much more! (Anyone who writes a newsletter involving a calibration quokka has no place to judge)

### About This Issue

- 27% of readers fell asleep by the third paragraph on specifications. However, 0.05% of that can be attributed to actual narcolepsy disorders.
- The main topic was chosen based only on the 1991 Salt-N-Pepa song coming to mind. We take things very seriously here. Also, is there a calibration term that rhymes with "Shoop"? Asking for a friend...

## Ask Kal, the Calibration Quokka



*Hey Kal, how often should I be calibrating my equipment?*

That's a good question! And one that really depends on your individual business and a careful assessment of the risk involved.

A calibration lab's hands are kind of tied in terms of giving direct guidance to customers for what their calibration periodicity should be – you can imagine the potential conflict of interest if I suggest your new multimeter really needs to be calibrated on a bi-weekly basis (instead of, say, semi-annually)...if I'm the one you're paying to do it!

A company should consider how often a device is used, how fast it might wear depending on the environment it's in, and therefore the likelihood it goes out of specification between calibrations – and the risk potential that brings. If I'm using thread rings to check the fit of precise screws I'm manufacturing at a rate of tens of thousands a day, every day of the year, and which are going into highly sensitive and regulated medical devices, I probably need to calibrate those rings more often than I calibrate a set of calipers that gets used a few times a month in a much less sensitive part of the business process!

## New Equipment Makes Thread Plugs a Breeze

Diamond Technical Services recently purchased the Thread-View II from Quest Metrology.

With this new technology, we'll be able to optimize accuracy and measurement of thread gage calibrations with a collimated light-based system!



## DTS Makes Showing at NASF Suppliers' Night

DTS participated in this year's Suppliers' Night event put on by the National Association of Surface Finishing. It was a great event to connect with new people and to reconnect with existing customers.

We even have a picture of our propaganda table, and if we'd put even a few more seconds of thought into it, we might have even taken the photo with an actual human being in it.



For questions, comments, concerns, or to opt out of emails, please contact:  
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