

COMPANY PROFILE ///

C3 DATA

# ENSURING COMPLIANCE WHILE SAVING TIME AND MONEY

The technology offered by C3 Data performs pyrometry tests that must be done to comply with the necessary specifications needed to make a quality product. (Courtesy: C3 Data)

# C3 Data provides a software platform built specifically for the thermal-processing industry to help ensure furnace compliance to a number of industry requirements such as Nadcap, AMS2750, CQI-9, and more.

By **KENNETH CARTER**, Thermal Processing editor

**E**nsuring certifications for heat-treating applications are performed correctly and documented properly is an often time-consuming but necessary final step in verifying crucial work has been done accurately.

But what if there was a way to perform that final step quickly while maintaining that accuracy? The minds behind C3 Data have developed an innovative application that can do just that and more.

“We help heat treaters be more efficient,” said Nathan Wright, who, along with his brother Matt Wright, is a founder of C3 Data.

“We do this by providing them with the tool that helps them comply with a specification or maybe a group of specifications — heat-treat-specific specifications they’re required to follow to produce a product. We’re essentially building efficiency into that compliance process surrounding these specifications while also helping ensure their compliance.”

## PERFORMING PYROMETRY TESTS

The technology offered by C3 Data performs pyrometry tests that must be done to comply with the necessary specifications needed to make a quality product, according to Matt Wright. There are three main tests, one being the System Accuracy Test — a comparison of a test system to find out what the temperature inside of a furnace is against what the control system says the temperature is. The goal is to verify whether the control system temperature is close enough to the test system temperature.

“There are dozens of measurements and interpolations that have to be considered to get the correct answer,” he said. “Before C3 Data — and what a lot of people who don’t use C3 Data have to do — is do all that stuff every single time they perform an SAT, over and over and over and over again. With our app, it’s a function of going out, entering what you see on the screen of your test system and your furnace system, hitting enter, and being done. Everything else is built-in, and all the checks and balances are integrated into the C3 software. You don’t have to worry about additional work; you get an immediate pass/fail result and a fully compliant SAT report.”

Every required pyrometry test has a solution through C3 Data’s technology, according to Nathan Wright.

“We built the software around each specification,” he said. “Unlike spreadsheets that attempt but can fail to ensure compliance, we asked ourselves, ‘What does the spec require? And let’s build a piece of software around every one of those requirements to help ensure the heat treater’s compliance 100 percent of the time.’ We did that for the SAT. We also did it for the TUS test (for every make and model of data logger). We also have an instrument calibration test module and a module for the alternate SAT that automatically generates all your A-SAT reports for you. In all of our test modules, C3 offers full compliance by taking into consideration every single requirement in the 56-page document — that most of us in

the heat-treat industry are familiar with — called AMS2750. We’re currently in Rev G of that specification, and just after Rev G was released, all C3 customers gained automatic and instant access to those new requirements. As I mentioned, all the requirements of the specifications are integrated directly into the C3 software so that you aren’t — as a user of the software — even allowed to make a mistake, whether it was intentional or accidental. You just simply can’t make those mistakes when using C3.”

## BEYOND AEROSPACE APPLICATIONS

The specifications within C3 Data’s software aren’t limited to AMS2750, which is the aerospace side of heat treating, according to Nathan Wright. The software also includes specifications needed for the automotive industry and other areas, such as CQI-9 specifications.

“C3 has what we call PRECANNED specifications, which are the most popular and well-known in the industry,” he said. “But sometimes there are one-off specifications, and in C3, our customers can optionally create what we call a customized specification. These custom specifications can be built by the end-user within C3 without assistance from a third party.”

By offering a variety of necessary specifications, Nathan Wright emphasized that his company’s goal is to make heat treaters and pyrometry labs’ lives a little less hectic.

“What we strive to do in our everyday life and the C3 Data world is to stay true to this idea of making the work life easier and more enjoyable for the people who use our software,” he said. “When we started the company, originally it was designed for just pyrometry labs, but now it’s become available to the entire heat-treat industry. We want to be able to make sure we’re providing a piece of software that continues to reinforce that philosophy of that work-life balance and making that work-life portion of it easier and more enjoyable.”

Matt Wright echoed his brother’s sentiment.

“At the end of the day, people are paying good money to use our software, and it needs to provide a value,” he said. “The two main values we infuse into our product are saving time and avoiding errors and audit findings. Those are the things that people want, and that’s what we strive to deliver every day. We get a lot of feedback from many of our customers, particularly after audits, and we’re always happy to learn that our customers have zero non-conformance findings related to the use of the C3 Data software.”

## WORKING WITH CUSTOMERS

In creating and fine-tuning its innovative products, the Wrights pointed out that C3 Data has developed quite a symbiotic relationship with its customers.

“When you look at many of the features that our customers enjoy today, many of them have come from our customers’ requests,” Matt





Every required pyrometry test has a solution through C3 Data's technology. (Courtesy: C3 Data)

Wright said. “We started with a base product that Nathan and I — from our experience — envisioned. And then, as the user base grew, we kept getting, ‘It works great and all, but what about this?’ or ‘Have you ever considered that?’ We’d love to be able to brag and tell you that we’re the brainchild of all the good ideas. Still, really, we’re just smart enough to be able to listen to the voice of the customer and implement good ideas that we can see are going to be valuable across the customer base.”

Nathan Wright boils that down to excellent customer support.

“A lot of the feedback that we get when a customer comes to us with a challenge is often related to a nonconformance,” he said. “We ‘hold their hand’ throughout that entire process — helping them address the non-conformance. Then, moving forward, we offer 24/7, around-the-clock support for any questions they may have and follow up after that audit and leading up to future audits. That’s a part of the service that comes prepackaged with our subscription services. We offer that kind of technical support. Not only is our support team available, but both Matt and I, as founders of the company, offer our cellphone numbers to be available to our customers around the world whenever they call.”

**A MUCH-NEEDED TOOL**

With the time gap between specification revisions growing shorter, Nathan Wright said C3 Data’s software has become a welcome addition to a heat treater’s toolbox.

“One of our primary value propositions to our customers is that all our customers are always on the front edge of any industry change,” he said. “As an example, every time a new spec is released, and I mentioned the Rev G version of AMS 2750, C3 anticipates that change, participates in what the changes are going to be, knows what they’re going to be before they’re released, and we update our software as those specifications are released. Whenever an update occurs (no matter how large or small), C3 customers simply log into their C3 Data account, and all the new requirements flow down automatically into their system. It minimizes the training our customers need to invest in to ensure their compliance. It keeps going back to this idea of helping ensure our customers are always compliant with whatever the industry throws at them. We’re constantly evolving, not only with the new ideas that our customers bring to us but as the industry itself changes, so do we. We’re ahead of it; we’re anticipating it, and we’re making sure our customers are always there to meet that challenge.”



**TURNING IDEAS INTO REALITY**

C3 Data is still a young company, but the ideas that became the crux of the company were born more than 20 years ago when Nathan Wright started a pyrometry service company called Tru Cal.

“I was in search of a way to reduce error and spend less time on paperwork and all the other necessary administrative tasks so that we could spend more time focusing on the majority of the things that were important to our customers, such as the collecting of data and the analyzing of that data,” he said.

He intended to create a product like C3 Data that would eliminate error and help save time; however, the technology needed for the software wasn’t available yet.

“Back in those days, there were no iPhones; there were no app stores, and there certainly wasn’t broadly available high-speed wireless data available,” he said.

Matt Wright said that what would eventually become C3 Data was further developed after the brothers started a pyrometry lab GTS (Global Thermal Solutions) in Mexico in 2013.

“We were constantly trying to find ways to make our technicians’



By offering a variety of necessary specifications, C3 Data's goal is to make heat treaters and pyrometry labs' lives a little less hectic. (Courtesy: C3 Data)

lives better and easier," he said. "More than anything, we wanted to retain them, to make GTS a company they wanted to stay with. And so, in asking them, 'What do you not like about your job?' the answer kept coming back, 'I don't like sitting in an office or a hotel room after the end of a long, sweaty day writing reports.' I said, 'Well, Shazam! We don't like paying you to do that, so let's see if we can find a way to eliminate that.'"

That epiphany led them back to Nathan Wright's original idea he had a decade earlier, but now, the iPhone and the Cloud were real things.

"We developed this first utility to make our lives and the lives of our technicians better," Matt Wright said. "But as we started developing it, we realized this is something that the whole industry can use."

## MOVING INTO THE FUTURE

Being the data wranglers that they are, the Wrights' company is poised to be a necessary tool in an ever-evolving heat-treat industry.

"That's where C3 Data comes in," Nathan Wright said. "As we look to the future, C3 continues to expand its digital integration capabili-

ties with thermocouple manufacturers and pyrometry labs across the globe to provide C3 customers with seamless digital access to the ever-growing amount of data that those entities provide to heat treaters."

"We also see the compliance data that our customers produce becoming better leveraged to their benefit," he said. "C3 Data has invested in the ability to provide predictive failure analysis. For example, C3 will soon be able to anticipate when a thermocouple is likely to fail before it fails, and will notify the customer of this prediction. In this example, and there are many others, the end goal is to empower our customers with the information they need to ensure that their furnace conditions can never get to a place where they would otherwise produce scrap."

It sounds cliché to say that data will drive the future of heat treating, but providing meaningful data in a way that is actionable for the heat treater will be something C3 will offer, and Nathan Wright emphasized that will drive a better future for all heat treaters across the globe. ♨



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