

# Trek Bike humidifies to create a safe environment for their employees and their data

## RESULTS

- Preventing static sparks in the carbon fiber finishing room to prevent airborne resin dust from igniting
- Preventing static sparks in the data center to protect components from catastrophic failure

## THE JOB

Trek started with five employees building steel-frame bicycles in a barn in Waterloo, Wisconsin. It was 1976. In the 40-plus years since, Trek has become the global leader in performance bicycle manufacturing and design.

While still based in Waterloo, the company is now in a new building about a mile from the barn. This sprawling, state-of-the-art complex is Trek headquarters and the center of operations for Project One. Here, road bikes and upper-end mountain bikes are hand built for customers who select every component, material, and color. The top level of Project One even includes custom, one-off paint schemes. The new building has two areas that the barn did not have—a finishing room for carbon fiber prep and a data center.

Skilled technicians in the finishing room sand off a layer of carbon fiber composite, mostly by hand. This process ensures that every feather-light frame—some actually lighter than a full water bottle—are free of defects and perfectly clean for maximum bonding when painted. To nobody's surprise, particles of resin dust are incredibly light. They are also flammable, and they hang in the air until airflow draws them into each finishing station's industrial filtration system.

Down the hall, racks of servers store millions of transactions from customers in more than a hundred countries. Data that are critical for accurate product delivery—selections for frames, drivetrains, cables, seats, and the most customizable choice of all, paint—stream into the Trek data center every hour of every day.

## THE CHALLENGE

While unlikely, a malfunctioning finishing room filtration system could result in a high concentration of airborne resin dust. If the relative humidity (RH) is low enough, static



Eddi Saucedo in the finishing room prepping a Project One bike frame for paint



Karri Kletz inspecting her artistry on a Project One frame before applying the decals

charges could build up on surfaces to the point where sparks occur. A single spark could ignite the resin dust and cause a dangerous explosion. In the data center, an arc of static spark between components or cables could damage equipment beyond the reach of an automatic restart.

The NFPA and OSHA caution against static sparks in dusty, enclosed environments. The majority of days in Waterloo, particularly in the winter, require that buildings add moisture to the air in order to maintain a set point anywhere near the ASHRAE-recommended 50% RH for data centers.

Clearly, both rooms need humidification to minimize the possibility of static sparks. Adding a layer of complexity, the building design called for mechanical systems ten feet above the floor, including both the finishing room and the data center humidifiers. This overhead location would require that humidifier tank cleaning be performed while standing on a ladder.

## THE SOLUTION

Trek Facilities Leader Craig Bilau contacted mechanical equipment contractor H&H Industries (now operating under the name 1901, Inc.) in Madison, WI, to explain Trek's need for humidification in the finishing room and the data center.

H&H Industries worked with local DriSteem rep Masters Building Solutions to discuss the applications and the overhead installations. The recommendation was steam humidifiers using reverse osmosis (RO) fill water. Steam because it is the purest form of humidification, and RO water because it can supply humidifiers running flat-out for years without being taken offline for tank cleaning. Tap and even softened water would require much more frequent tank cleaning.

Bilau agreed, H&H Industries installed two DriSteem humidifiers, and the likelihood of static sparks in Trek's finishing room and data center has been minimized since start-up. Ladders for cleaning the humidifiers are nowhere in sight.

"The tanks never get dirty, so we don't have to do anything with them," Bilau explains.

Trek Bicycle Corporation's growth from a five-person shop to a billion dollar company was borne on good decisions. DriSteem is proud to be a trusted component of this world-class operation.

### DRI-STEEM Corporation

a subsidiary of Research Products Corporation

DriSteem U.S. operations are ISO 9001:2015 certified.

[www.dristeem.com](http://www.dristeem.com)

U.S. Headquarters:  
14949 Technology Drive  
Eden Prairie, MN 55344  
800-328-4447 or 952-949-2415  
952-229-3200 (fax)  
Email: [inquiries@dristeem.com](mailto:inquiries@dristeem.com)

European office:  
Grote Hellekensstraat 54 b  
B-3520 Zonhoven, Belgium  
+3211823595  
Email: [dristeem-europe@dristeem.com](mailto:dristeem-europe@dristeem.com)

© 2019 Research Products Corporation  
Form No. Trekbikes-0819



Gas-to-Steam (GTS<sup>®</sup>) humidifier presiding over a room full of freshly painted Project One bike frames. Steam from this unit is ducted to the finishing room.



Vapormist<sup>®</sup> electric humidifier installed above a busy hallway. Two ducts bring steam from this unit into the data center.

"We put the humidifiers up and out of the way, because they use reverse osmosis water. The tanks never get dirty, so we don't have to do anything with them."

Craig Bilau | Trek Facilities Leader

For more information on DriSteem humidifiers, go to: [DriSteem steam humidifiers](#)

For DriCalc<sup>®</sup>, DriSteem's free sizing and selection software, go to: [Register for DriCalc](#)

For information on finding your local DriSteem representative, go to: [Find-a-rep](#)

For more information on Project One, go to: [Trek Project One](#)