



# Thermal News Autumn 2015

*closing the loop on thermal solutions*

ISO 9001: 2008 REGISTERED COMPANY  
[www.durexindustries.com](http://www.durexindustries.com)

## Annual Summer Gathering

Durex is grateful to all our employees who consistently deliver quality thermal solutions to our customers. Our annual summer picnic is one way to show our appreciation. Annually, Durex employees enjoy this fun-filled event filled with food & beverages



along with a service awards presentation. We are all entertained with bean bag tournaments, bingo, a Mariachi band, karaoke, and more games. The dunk tank and the 50/50 raffle raised money for this year's charity organization, *Pioneer Center for Human Services*.

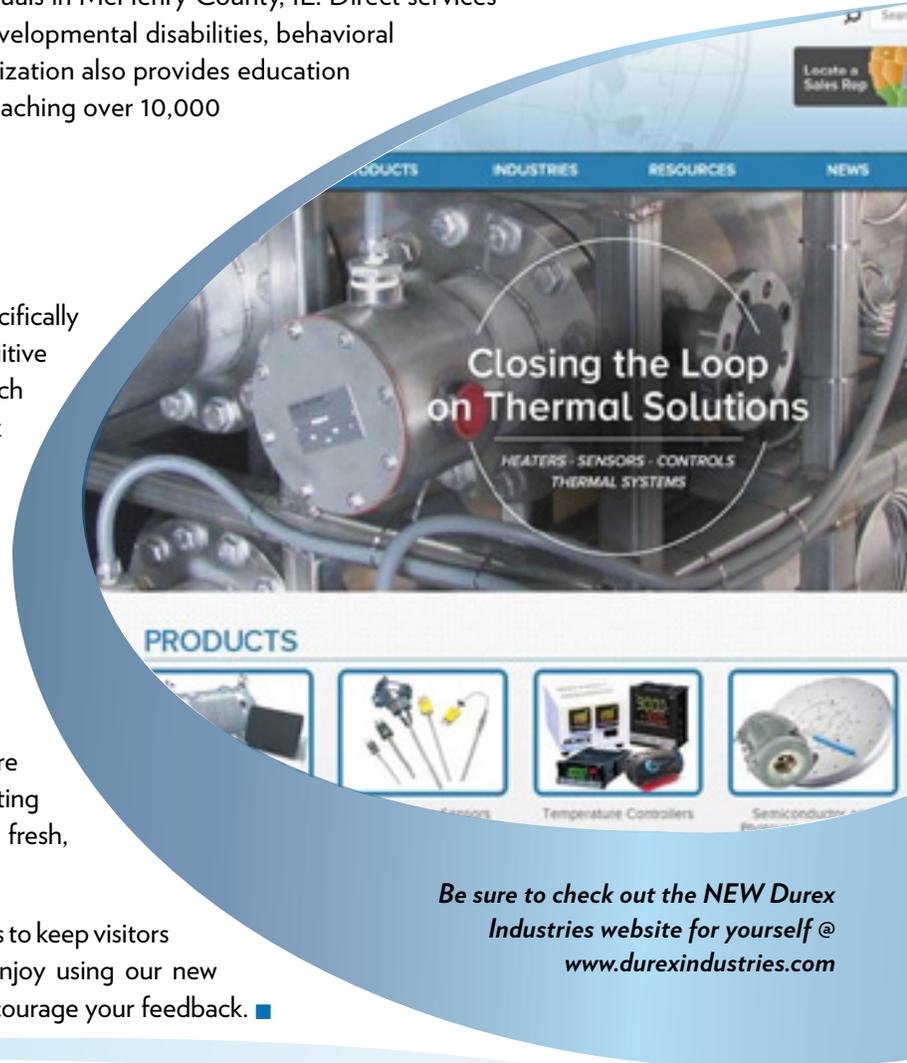
The Center provides services to more than 4,800 individuals in McHenry County, IL. Direct services are provided for families and individuals experiencing developmental disabilities, behavioral health, homeless, and traumatic brain injuries. The organization also provides education and outreach to schools and community organizations reaching over 10,000 additional individuals. ■

## New Durex Industries Website

*August 2015, Durex launched our new website.*

We invite you to visit our newly enhanced website specifically designed to increase functionality and provide intuitive navigation. The restructured content, powerful search capabilities, and product menu navigation provide quick access to important industry, product and thermal solution information. Our new look and feel include a responsive web design which adjusts website content to fit the screen size of the device you're using whether PC, mobile or tablet. This enables visitors to access our website information wherever and whenever they need it. Enjoy the convenience of our ever-expanding thermal online store which continues to provide a large selection of standard electric heaters, temperature sensors and temperature controls. Deb Casaletto, Marketing Communications Manager, described our new website as fresh, user-friendly and informative.

Durex continuously strives to provide website improvements to keep visitors up-to-date on our technologies and thermal solutions. Enjoy using our new website at [www.durexindustries.com](http://www.durexindustries.com) and as always, we encourage your feedback. ■



*Be sure to check out the NEW Durex Industries website for yourself @ [www.durexindustries.com](http://www.durexindustries.com)*

*“Durex Industries continues to be an industry leader by pushing the limits of thermal technology.”*

**heaters • sensors • controls • process systems**

## Thermal Solution Applications

Solving thermal problems is one hallmark of what Durex brings to customers. We would like to share 3 examples of how Durex solved challenging applications.



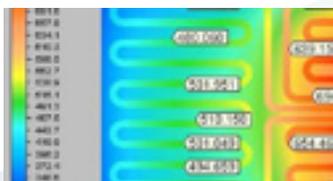
(Integrated heater and temperature control system)

### Large Engine Fuel Heating

Durex developed this integrated heater and control system to heat fuel for large engines. Pictured are sealed in-line flow heaters with multi-zone, multi-purpose capabilities. The system is rated for use in Class 1, Div. 2 hazardous areas. The heating chamber is insulated with

low k insulation that also resists absorption of diesel fuel and other liquids. The control panel includes the temperature controller and communications electronics that control the heater and provides an operating status signal for the main operating system.

### Photovoltaic Processing Equipment



(3D FEA Model Photovoltaic Application)

A manufacturer of thin film photovoltaic technology was experiencing frequent heater failures in their chemical vapor deposition equipment. The solution started in Durex' metrology lab where we analyzed failed tubular heaters and determined their failure mode.

Heater failures resulted from a combination of heater design, material, and environment. Knowing the failure mode was the first step. Designing a solution that would withstand this difficult environment was challenging.

Durex used our 3-D Finite Element Analysis (FEA) software to model a heater circuit that would eliminate hot spots that were contributing to heater failure. As a result of our metrology and failure analysis, the heater element sheath material was changed to a high grade alloy with a special oxide coating applied to the heater wall to help withstand the chemical environment. In combination, Durex' heater design improvements dramatically extended heater life and reduced costly maintenance.



(3D FEA Modeled Photovoltaic Heater)

### Analytical Instrumentation Turnkey Flexible Heater Assembly

(Heated Instrumentation Enclosure)



An Analytical Instrumentation Original Equipment Manufacturer (OEM) has a highly sensitive portable precision measurement instrument that is used outdoors in extreme weather environments. It is critical that the sensing devices and electronics be housed in a heated moisture proof environment. Freezing temperatures and condensation could result in incorrect measurements. The OEM had designed a single piece anodized aluminum enclosure to protect the critical components. The enclosure itself needed to be uniformly heated. The OEM was looking for a turnkey solution that would include the aluminum enclosure, heaters and sensors.

Durex was engaged to design and manufacture the turnkey enclosure assembly. Using a metal spinning process, the enclosure was formed to the dimensional specifications.

Distributed wattage silicone rubber heaters with integrated thermocouples were designed to meet the temperature uniformity specifications. Considering the harsh environment, the heaters are vulcanized to the enclosure.

Supplying a turnkey solution resulted in a reliable solution at a lower cost and better lead time than individually supplied components. ■



Contact Durex Industries for all your heater, sensor and control requirements.

For more information, visit our website!  
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