



Application of Impedance Pipe Heating Systems

While impedance heating is an appropriate method to maintain and heat pipes, it is not always the best option. So how do you know when to consider and apply impedance pipe heating? Here are five areas where impedance heating is always an excellent choice:

1. Temperature Sensitive Products

When working with temperature sensitive products, you have to be extremely careful. Both heat trace and steam trace cause localized hot spots on pipes. Impedance heating uses the pipe as its own heater, and produces an even heat across the entire surface of the pipe. This allows impedance to heat to exact temperatures across an entire pipe, a very important capability when dealing with temperature sensitive products.

2. High Temperature Applications

Every heating method has its limits. As the temperature you need rises, your heating options diminish. With impedance, the only limits you have are the limits of your piping material. Impedance heating has been used to heat materials well in excess of 1,000° F!

3. Raising the Temperature in a Flowing Product

What do you do if you need to raise the temperature of your product as it flows through a pipe? Your best bet is an impedance system. The same properties that give an impedance system even heat, and high temperature capabilities, also make it capable of heating a flowing material. Heat input of over 1000 watts per square inch has been obtained using impedance heating, greatly exceeding the limits of other available heating methods. With impedance pipe heating a large amount of heat can be transferred to the flow product in a short, limited length of pipe.

4. Quick Heat Up Times

When designing an impedance system one of the key aspects to consider is heat up time. Heat trace and steam trace are slow heaters, making system reheating incredibly time consuming. As a result, during extended times with no production, the heating system still has to run. With impedance, the heat up time is greatly reduced. A heat up time of minutes is possible with impedance, without fear of damaging the product in the line. This allows the process to be shut off on weekends, breaks and other required or convenient times reducing operating costs and reducing energy use. After a power loss, the line can be brought up to temperature quickly so production can begin again, saving money.

Continued on Page 2

Banner-Day

1840 NORTH MICHIGAN AVENUE - SAGINAW, MI 48602

WWW.BANNER-DAY.COM • PHONE: 877.837.0584 • FAX: 989.755.1309



5. Long pipe Runs

As the length of a heated pipe grows, the problems in keeping it hot grow also. The length of pipe a heat trace system can heat is relatively short, requiring multiple systems in only a couple hundred feet of pipe. The longer the pipe, the more systems you need, with the accompanying controls, conduit, and installation labor. The more systems you are operating, the greater the chance that one of them will fail, causing a block in the pipe and disruption of your process. Impedance systems have been designed to accommodate heating in excess of five hundred feet of pipe in one system. With added reliability, reduced risk and reduced installation labor costs, impedance becomes the preferred option for long runs.

Heating Application	IPH	Heat Trace	Steam Trace
Temperature Sensitive Products	Yes	No	No
High Temperature Applications	Yes	Limited	No
Raising Temperature of Flowing Product	Yes	No	Limited
Quick Heat Up	Yes	No	No
Long Pipe Runs	Yes	Limited	Limited

Every pipe heating system is different. Each has its own requirements, and challenges. With the many different heating products on the market, users have to consider all their needs to select the best and lowest risk solution for the application. Impedance heating can heat any metal pipe, but just because it can, does not mean it should. Look at your system needs, and ask yourself if any of the descriptions listed here describe your system. If they do, than impedance would be the best choice.

Visit Banner-Day at www.banner-day.com to learn more about **TraceFREE™**

Banner-Day

1840 NORTH MICHIGAN AVENUE - SAGINAW, MI 48602

WWW.BANNER-DAY.COM • PHONE: 877.837.0584 • FAX: 989.755.1309