Application report

eltherm

eltherm - Specialist in electrical Tank Container Heating Systems

Electrical Heat Tracing Systems – A vital link in the process of container production

Modern electrical heat tracing technology plays a decisive role in many different types of industrial production as well as in container heating. It is particularly important for manufacturing complex container products.

Essential for high-precision operations

One of the main uses of heating cables in industrial production is the heating of IBC's and tank containers for special liquids. Sometimes the specification requires a small medium temperature range of + - 1° C. eltherm engineering and its high quality products can manage such extreme requirements. In many cases eltherm could proof the ability to handle this problem in the market of containers and IBC's.

The advantages of eltherm heating cables are:

- high chemical resistance
- low weight
- vibration-resistance
- repair and maintenance quick and easy at the crash spot
- efficient heat distribution
- flexible cable with small bending radius
- various resistances possible, so no need to use a transformer
- low power output W/m prevents container walls from overheating spots
- moisture resistance
- saltwater proof

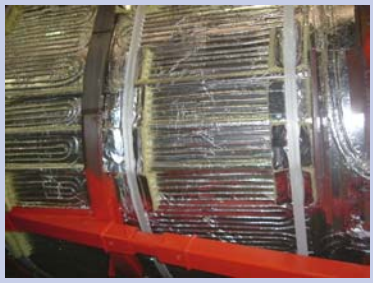
The eltherm philosophy: "We are in the business of developing heat tracing systems"

eltherm's range of products for production of heat tracing systems combines high quality heating cables and components with individual systems. As a manufacturer of heating cables with a comprehensive range of resistance heating cable PTFE, FEP and PFA, self regulating heating cable, measuring and control devices and accessories eltherm advises container manufacturers in the planning phase already. This ensures that all the heat tracing equipment is exactly tuned to the whole system, and that the system meets the specification and the some times extreme requirements of the container market.

Beyond this, eltherm also offers complete systems, built in close cooperation with the customer, for use in other markets, like automotive or petrochemical industries.

Main applications in container heating

- **PTFE Heating Cable**



- **Complete Tank Container**

- **Measurment and Control**

Source: eltherm projects 2005

Interview with Wolfgang Buch and Winfried Dörr, Dipl. Engineer eltherm Elektrowaermetechnik GmbH

Which heating systems did your customer use before they chose eltherm?

Buch: They used hot water or steam for the heating of the containers. The main problem was that often neither water nor steam was available at the unloading or loading terminal. After 1990 they often used MI heating cable. 1994 1995 was the breakthrough for eltherm since they applied PTFE cable for such a heating problem as a pioneer.
As one of the first companies in this market we heated an MDI-Container* with a medium temperature window of +/- 1°C ! and an operating temperature of 43°C.

What was the reason for this great breakthrough?

Dörr: On the one hand the pretentious engineering performance and on the other hand tremendous advantages in terms of cost of ownership (COO). And the fact that such new successful solutions spread very fast in a niche market.

Which advantages do you mean in terms of cost of ownership?

Dörr: PTFE is extremly resistant against agressive chemicals but is very light. It compensates vibrations very good due to the flexible cables. You can install it quick and easy. The low wattage prevents the container walls from hot spots. The whole control system is calculated for 380 - 440 V, thus you can plug in all over the world in nearly every supply network.

* Methylene-Diphenyl-Diisocyanat

Which products of eltherm are used and do they have technical advantages?

Dörr: Our decision was primarily based on the clear economic advantages offered by the ELKM-AG. This product got a braiding for earth protection and so your container is safe without earthing all single container elements which must be earth protected in all other solutions. Another advantage in terms of COO!

What about the different requirements like heat distribution and so on?

Buch: Yes, with ELKM-AG our customers can select from a broad range of resistances We calculate the heat loss, recommend a resistance and install the system to the containers. In this case you do not need a transformer for control matters which means you save an expensive and susceptible system.

Do you install these systems in all countries with your own installation team?

Buch: There are several options to choose from. We can send an eltherm installation team, which installs on site. In a few cases customers provides us his container and we install on our production floor. Or we send a supervisor to the customer's installation team and advise them how to install.
At least we use for standard applications standard heating mats which can easily be installed by the enduser.

What are your predictions for this market, let's say in the next 3-5 years?

Dörr: Our expectations for the next years are excellent. The reason for this is that chemical products become more and more temperature sensitive. So there will be a certain demand for our solution.
Buch: There is a strong impact in this market from the chemical and pertrochemical industry. And we will see how these industries perform.

Thank you very much for talking to us!

Quick and easy installation

Customers can install by their own

Conclusion:
eltherm is the specialist and one of the market leader in Tank Container Heating Systems!

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