



Home

Contact Us

What Our Clients say

T_Sim

Energy Saving Heaters

High Pressure forming

B-Sim

News & Downloads

Ceramicx Energy Saving Heaters

Heating elements should be replaced regularly – they lose efficiency as they are used. ([Click 'Back-To-Basics' link at foot of page to download article](#))

Moulders should always use reflectors to **direct heat to where it is required** – rather than being lost out the back of the elements.

At the core of the thermoforming process is the heating of the sheet to optimum moulding temperatures. This is normally achieved by ceramic or quartz heaters – which lose efficiency as they are used.

To ensure that as much energy as possible is transmitted to heating the sheet it is important that heating elements are effective and the heat emitted from the back of the elements is reflected towards the sheet.

Up to 30% energy savings

David Russell Associates Ltd have carried our technical visits to Ceramicx (www.ceramicx.com) and believe that the thermoforming industry could **achieve significant energy savings** by fitting reflectors at the back of every heating element.

The visits confirmed that Ceramic and Quartz heating elements emit heat in all directions – if reflectors are not used, a new 650W element will reach 525°C on the sheet side and 450°C on the back – when these temperatures are converted into the heat reaching the sheet – only 60% of the energy input reaches the sheet – with 40% lost out the back to heat the machine frame and the factory.

But with a reflector behind each element the sheet side of the element reaches 590°C and 80% of the energy is directed towards the sheet.

Reduce Energy Input

To achieve the same sheet temperature with reflectors you can reduce the energy input resulting in:

Up to 30% energy cost savings (heat the sheet, not the frame or the factory)

Faster heating – reduced cycle times

Heaters up to temperature quicker

Longer heater life - less heat history and degradation – ([Click 'Back-To-Basics' link below to download article](#))

Ceramicx have been at the forefront of the development of Infra-Red heaters for thermoforming for 16 years and offer selection advice for all applications and materials. They offer complete packages of platens and state-of-the-art control systems to optimise energy usage.



Back-To-Basics.pdf

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