

ceramicx

HEATWORKS

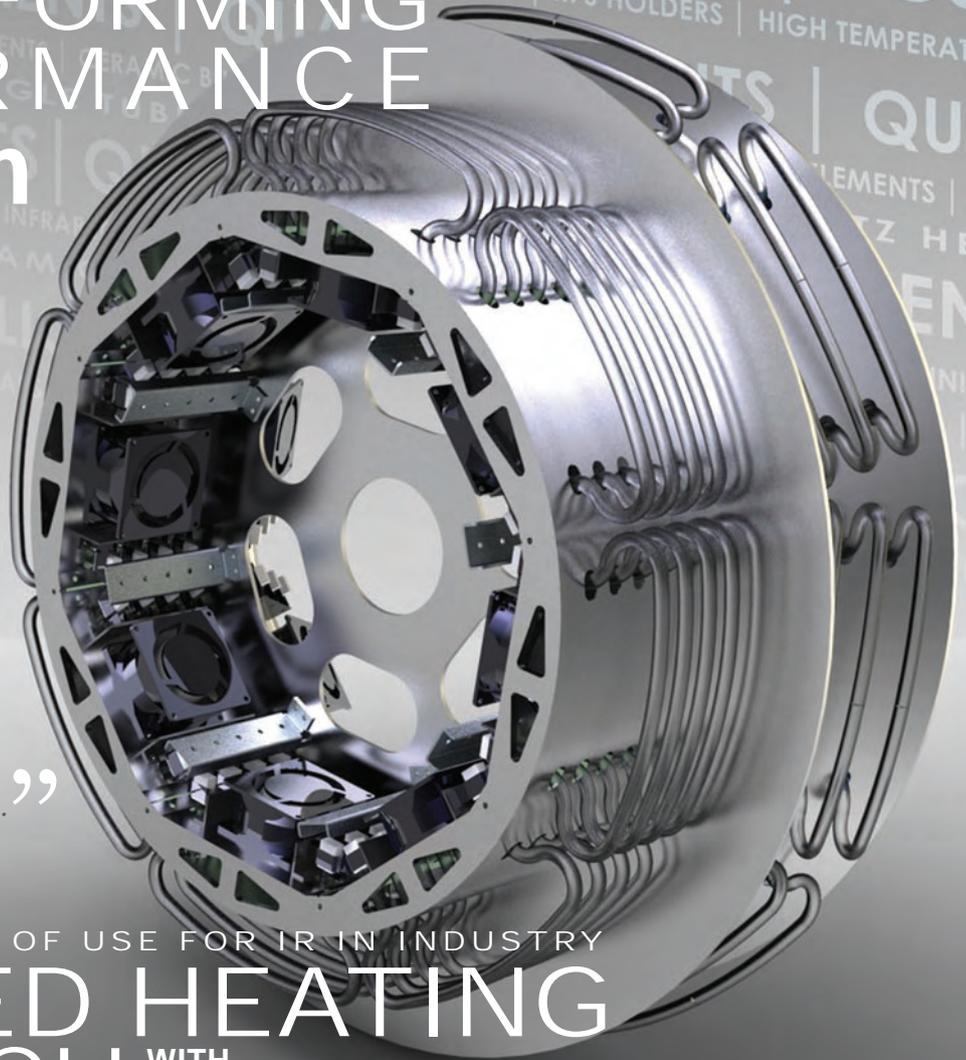
ISSUE 2 FEBRUARY 2011

THERMOFORMING PERFORMANCE

PREDICT IT WITH **T-Sim**

I²E²
ENERGY
COMPETENCY
CENTRE

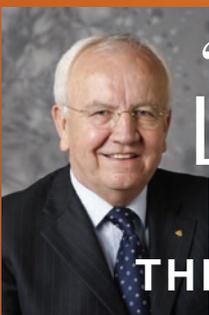
“...it amazes me the number of thermoformers who see no need to measure the energy consumption on their machines.”



DEVELOPING MODELS OF USE FOR IR IN INDUSTRY

INFRARED HEATING RESEARCH

WITH INTERNATIONAL EXPERTS AND RESEARCH INSTITUTES



“A
LIFE TIME IN THERMOFORMING”
Ken Braney



shoponline

NEW DISTRIBUTORS APPOINTED



INDIA

Elmec Heaters



TURKEY

Ser Rezistans





shoponline

CERAMIC ELEMENTS
Long wave emitters

QUARTZ ELEMENTS
Medium wave emitters

QUARTZ TUNGSTEN ELEMENTS
Fast Medium wave emitters

QUARTZ HALOGEN ELEMENTS
Short wave emitters
Fast IR systems

ACCESSORIES
Large range of high temperature components and accessories

BOOKS

Infrared heating Elements Direct from the manufacturer

all standard stock items available online, goods despatched next day, competitive delivery rates.

For all non standard items contact sales@ceramicx.com



www.ceramicx.com

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Talk to us today about your infrared needs

HEATWORKS

This year is only a few weeks old and already the tone seems set: Our exhibition at the world class K 2010 plastics fair back in November 2010 proved to be our most successful yet. And that particular outward bound mission generated several others – in the Middle East, in India, in Turkey and in several other territories where demand for Ceramicx infrared heating has been growing. In the space of a few sudden weeks, internationalism has been reconfirmed as the lifeblood of Ceramicx business.

Over many years we have steadily built our export levels to 98% of turnover, selling infrared to over 65 countries. However, the past few months have seen an additional and quantum shift; with several quality re-sellers and distributors coming to the fore and providing us with services and marketing support in new parts of the globe where our products are in high demand. This trend is most welcome and long may it continue.

For our part, Ceramicx is this year pledged to support our international network with ongoing marketing and communications resources and also with new resources in infrared heating training at our headquarters. Today, the science of infrared heating remains something of a black art but slowly and surely we at Ceramicx are mobilising new allies, resources and know-how to try to bring it into the manufacturing mainstream.

Our international outreach and our mission on training would come to nothing if we could not demonstrate excellence in product quality and a commitment to low-carbon environmental manufacturing. Indeed these two factors go hand in glove. Show me a product with a high carbon footprint and it is most likely to be one that has been over-engineered and ultimately low in energy efficiency. Our efforts on these fronts continue – both for our own manufacturing and for that of our customers.

The magazine you hold contains articles in greater depth on all of these topics and issues.

We hope that you enjoy this, our second edition.

We are constantly looking out for ways of advancing infrared heating science; or plastics thermoforming processes or other applications engineering. If you have an infrared heating story to tell - please write in and share it with us.



Frank Wilson
Managing Director Ceramicx Ireland



ALL THE FUN AT THE FAIR

It's review time



As predicted, leading international heating systems specialist and manufacturer Ceramicx enjoyed its best ever K plastics exhibition in Düsseldorf at the end of last year

Over three hundred enquiries were received from all corners of the global plastics market; the company's new magazine Heat Works sold out from the stand before the end of the show and the Ceramicx infrared heat testing rig for plastics saw plenty of action throughout the eight days of the triennial show.

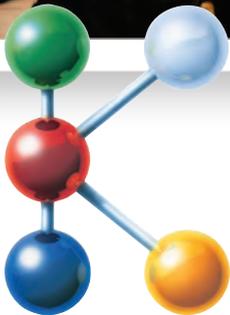


Some of the Ceramicx - Freek Team on the K 2010 stand

- (from left)
- Dana Schloppa
- Henning Ruffer
- Mareike Blaak
- Wolfgang Kaiser
- Frank Wilson
- Tadhg Whooley
- Cáthál Wilson
- Gráinne Wilson



A bespoke piece of test equipment offered a free material / emitter evaluation to determine the best emitter for processing material



K-2010

DÜSSELDORF

27.10.10 -
02.11.10

The bulk of enquiries at the plastics industry's triennial show were related to the company's infrared heating technology for the thermoforming of plastics. Ceramicx founder and director Frank Wilson says that 'it's still early days, but the international plastics thermoforming community appears to be waking up to the news that energy-content-per-part produced will be a defining benchmark for manufacturing and consumers from now on. Tomorrow's heating systems will need to become measurably more efficient and deliver on that score. We at Ceramicx are doing our part by producing the most efficient infrared heating elements and systems available.'

The K-show attracted 220,000 visitors – a figure that was 10% up on the numbers expected by the Düsseldorf show organisers. The Ceramicx exhibition experience reflected general global trends in the industry: 'The internationalisation of plastics manufacturing continues to grow,' says Wilson. 'We received increased interest

from Far Eastern manufacturing – China and Korea in particular - and India currently is clearly a growing force in global manufacturing. The German economy also continues to recover strongly from the credit crunch.'

Ceramicx also received a good spread of applications engineering enquiries for infrared know-how; products and expertise. 'The manufacturing world still has far to go in its understanding and application of infrared heating,' says Wilson, 'but we were very pleasantly surprised at the numbers of innovators – high-end research and development and mass production – that had discussion time with us at the K show. We hope to share news of plenty of new infrared projects in the course of the coming months.'



Tadhg Whooley (left) discussing the Ceramicx material test system with some Italian customers

Ceramicx received many good applications engineering enquiries at the K exhibition from companies around the world with significant interest received from India and Germany. Project ideas ranged from industries as diverse as energy conservation, energy production, plastics, food, steel, textiles and many other sectors.

The K exhibition confirmed and supported the Ceramicx ideas and plans for energy-content-per-part being measured on thermoforming machines. Ceramicx's Frank Wilson believes that this energy monitoring benchmark is shortly set to separate the quality machine producer from



Frank Wilson discusses an article in the first Heatworks Magazine.

Machinecraft a good quality family owned Indian thermoforming machine producer has been a valued customer of Ceramicx for over twenty years. At K 2010 Machinecraft was very interested to hear about the Ceramicx energy-content-per-part ideas. Machinecraft will now begin to examine the possibility of taking up this energy monitoring approach in the manufacture of their own equipment.

Ureatac Co. Ltd. a leading thermoforming machinery producer from South Korea was located in a stand close by to Ceramicx and partner Freek. Ureatac has been a prime customer of Ceramicx in recent years. Ureatac focus mainly on the production of a quartz-based thermoforming machine and again were very receptive to the idea of energy-content-per-part being measured on their machines.



Frank outlines a solution to a visitor on the stand.

the poor-quality producer - 'and also the quality infrared heater manufacturer from the poor quality infrared heater manufacturer. In our view that day can't come soon enough.

INFRARED HEATING RESEARCH NEEDS YOU

JOIN OUR TEAM

Ceramicx has begun work with a number of international experts and research institutes in order to build a body of research interest in infrared heating

We urge all of our HeatWorks readers to get in touch with us about this initiative. Infrared heating currently is a much misunderstood and misapplied science. The more we can do together - the better the outcomes for all.



Dr Phil Harrison
University of
Huddersfield

Dr Phil Harrison of the University of Huddersfield, UK is one of the team who are coordinating inputs. He says that 'our main objectives are to raise the profile of infrared heating research in industry - to carry out experimentation and develop models for the use of IR in industry.'

The new heating work will cover a number of aspects including reflector design, combined microwave and IR, input power vs output energy, emission and absorption of object materials, and many other topics. A number of training modules will be developed with various modes of delivery in order to promote the benefits of IR heating to a new generation of engineers worldwide.

'This kind of Infrared training and raising of awareness will be vital to all of industry as we move forward into an energy-conscious and low-carbon future,' says Ceramicx founder Frank Wilson.

'As we know, IR radiation is an extremely efficient method of heating a wide range of materials; due mainly to the radiation only being absorbed by the irradiated product and not heating the surrounding air that in turn relies upon convection for heat transfer.

It is an amazing statistic that for the last sixty years little has actually been published on the use of IR in heating - although there has indeed been much published work on the use of IR thermography, IR analysis, and the use of IR in health. Sensor technology has become extremely well known and understood while Infrared heating has not.'

Wilson adds that 'online literature surveys over last four years have revealed no technical papers of significance in the IR heating area. There is a significant and proven need for coordination, research and leadership in infrared heating. In fact, it is now clear to many that a lack of know-how is creating a back log of applications work that could greatly benefit industry and society generally.'

Despite the lack of formal method, IR heating has found many uses and a certain level in a number of industrial sectors. The leading applications include polymer processing, materials drying, a certain amount of electronics work; food heating, paint and adhesive curing and other applications within the international process industries.

The Ceramicx-led initiative offers to crystallise research and Infrared heating developments in four key frontline areas.

FOOD

- ▶ Energy savings
 - need to measure energy input
- ▶ Freezer to cook
- ▶ Tailor emissivity to food
- ▶ Possibility of micro cook
 - combined microwave and ceramic to cook and brown
- ▶ Measure output vs input of micro ceram
- ▶ Food processing
 - Drying
 - Cooking
 - Sterilise and cook in same bag?
 - IR sterilisation?
 - Dehydration
 - Micro IR cooking

POLYMERS

- ▶ Energy savings
- ▶ Curing
- ▶ Polymerisation
- ▶ Powder coat
- ▶ Deburring
- ▶ Lamination
- ▶ Welding preheat
- ▶ Shrinking
- ▶ Polymer Processing
 - Thermoforming applications
 - Consolidation of waste
 - Combined microwave and IR in production/curing/polymerisation

COATINGS

- ▶ Drying
- ▶ Curing
- ▶ Adhesives
- ▶ Powder coating
- ▶ Metallisation

PRINTING

- ▶ Energy savings
- ▶ Drying
- ▶ Measure absorption characteristics of inks/print
- ▶ Ink additives to improve absorption
 - Design of more efficient print dryers
 - Potential to custom make equipment solutions

'These four sectors represent the "low hanging fruit" as we currently see it,' says Harrison. Potential research topics will be crafted with these initial industrial applications in mind. As we develop the work we shall be able to embrace many more parts of manufacturing.'

From the get-go the intent of the research team is to develop work packages that can be shared with industry partners straightaway.

'Dissemination - of research and commercial opportunity - is key to projects such as these,' says Harrison, 'and will represents at least 50% of our new efforts in infrared heating work.' This will begin - as most research does - with background evaluation of existing research and research literature of IR radiation, theory, practise, its uses, applications and documented to date impact on target industry sectors.

'We are,' says Frank Wilson, 'then likely to start looking for further associates and partners - working out know-how gaps at an industrial and practical level.'

Based on this, the initiative will carry out a gap analysis to establish the educational needs for industry and so provide the basis of a commercially relevant, marketable post-graduate qualification and many other training modules for IR technologies, including publication of training manuals to support an industry specific MSc module.

PROJECT WEB-SITE	with links to MSc modules VLP
PROJECT BOOK	current best practise in the IR heating technology field
RESEARCH PAPERS	arising from project research and commercial application thereof
CONFERENCES	to support dissemination of best practise
TRAINING MANUAL	publish to support MSc modules developed
TRAINING CONFERENCE	to include all partners + wider European / International audience

'Training is essential,' notes Wilson, 'for us - our resellers and our customers. It's something that we cannot but invest in over the coming months.'

Microwave / Ceramic IR

- ▶ Need to measure input vs. output
- ▶ Type of resistor
- ▶ Resistor diameter and coil spacing
- ▶ Spacing of coiled wire
- ▶ Develop models for above
- ▶ Link with reflectors

Energy cost per part

- ▶ Develop methodology to calculate energy content per manufactured part in both KW and local currency
- ▶ Scale models of equipment
- ▶ See if models can be made which can be scaled up for industrial use to demonstrate efficiency

Reflector design / fabrication

- ▶ **Reflector materials when compared with aluminium**
- ▶ **Shape / design of reflector**
- ▶ **Focused or variable**
- ▶ **Change in reflectance with temperature**
- ▶ **Coatings**

Define optimum type of coating assuming mild steel substrate

Coat prior to or after forming

Temperature limitations

Fatigue

Deterioration with age / usage

Modelling of absorption / reflectance of receiver behaviour using surface metrology algorithms

Currently the team are planning a number of communication routes to infrared training - including:

IN HOUSE SEMINARS	EDITORIALS
CLIENT BASED SEMINARS	ON LINE LEARNING
CONFERENCES	WEBCASTS

Wilson says that 'in the next few months Ceramicx is set to lead out research work on three issues that are close to our practice here.

These are:

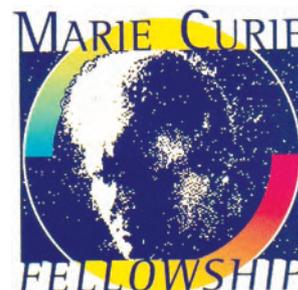
- ▶ Microwave and food heating technology
- ▶ Energy cost per part - *which many plastics thermoformers have a great need to be involved in.*
- ▶ Reflector design and fabrication

For further details about the whole project in Infrared heating research - or if you would like to become part of our initiative and team.

Please contact us;

Dr Phil Harrison
drpjharrison@btinternet.com

Cáthál Wilson
cathal@cermicx.com





ARABPLAS FULL OF MIDDLE EASTERN PROMISE

Ceramicx is preparing to appoint a network of distributors and re-sellers across the Middle East in order to support a marketing expansion in the region through 2011.



Director and Founder Frank Wilson says that 'the Arab Plast exhibition in Dubai, January 8-11 was the start of the Ceramicx campaign in the Middle East region, in order to establish our infrared heating expertise; plastics industry expertise and all kinds of applications engineering for infrared technology.' Frank Wilson spent much of his childhood years in Libya - growing up with the development of the oil and gas industries in the Middle East and getting to know various neighbouring countries.

'My own personal experience is grounded in the commercial and cultural traditions of the region. And our practice here at Ceramicx is very much in tune with the need to deliver quality, service and value for money. We learnt last month at the K 2010 exhibition that many countries such as the Kingdom of Saudi Arabia, Libya, Kuwait, Bahrain and others are fully intent on developing their local industries and infrastructure and are not just content to supply polymer to the world.

Ceramicx is now therefore inviting local agents, re sellers and distributors to join the effort in spreading best heating technology throughout the region. The Ceramicx industrial range includes Ceramic, Quartz, Quartz Tungsten, Reflectors, PAS's, dust press components and systems. For plastics, the Ceramicx solutions are focused primarily on the thermoforming industry, both for cut-sheet and in line.

Wilson points out that 'right now there are good opportunities for agents/ distributors already selling process heating components to the plastics and rubber markets. We also know that the Middle East countries have many opportunities in the paint and applications engineering areas. Ceramicx works for a large number of industries throughout the world in a wide variety of climates and conditions and the correct Middle Eastern distributor can take advantage of all our international experience in supplying solutions.'

Ceramicx supplies the full range of infrared heating options. Free training on infrared will be offered in Ireland along with sales/marketing support and with content 'Key distributors have a full sales and marketing role to play - not least through our new magazine HeatWorks which will also be distributed through the region.'

Ceramicx has much to offer emerging and growing industries in plastics processing - also heating solutions for new and developing industrial infrastructures; jobs and technology for Middle Eastern home markets. Wilson says that 'Ceramicx technology can help - in particular for all kinds of plastics thermoforming - in relation to engineering; curing and heat processing of many materials and products - to the highest temperatures - and in relation to all domestic heating markets through our Comfort IR range of heaters.

Developing local consumption, downstream industries, new grades and applications and providing process optimisation for all this work is now the order of the day in many countries here.'

Wilson adds that 'right now, many Middle Eastern economies are preparing themselves with the means for quality standards, manufacturing and learning; principally for plastics production and manufacturing. It is only a matter of time before the Middle East becomes a net exporter of plastics goods as well as polymer. Now is the perfect time for these markets to equip themselves with the best heating sources for their production needs.'

Wilson expects a rising volume of enquiries from the Middle Eastern markets: 'The manufacturing world still has far to go in its understanding and application of infrared heating,' says Wilson, 'but we were very pleasantly



Frank Wilson, Ceramicx, Aftab Ahmed Senior Sales Executive. HSCO Heater Systems, Dubai, U.A.E.

surprised at the numbers of innovators - high-end research and development and mass production - that had discussion time with us in Dubai last month.'

In many ways the Middle East has the opportunity to make a fresh start without having to clear out inefficient and energy-wasting production. We enjoyed meeting distributors at Arabplast and look forward to spread that message throughout the region.'





INDIA'S STAR RISES WITH CERAMICX

Ceramicx appointed Elmec Heaters, as the distributor for all Ceramicx products in India. Elmec represented the company in January at India's plastics industry exhibition Plastivision.

Frank Wilson, Ceramicx Founder and Director says that 'Ceramicx is delighted to be working with Elmec – a company which not only has a sales network throughout all of India, but which also offers the most complete heating product lines for the industry there. Elmec Heaters is one of the most sought after brands in India and it is now also positioning itself well in the global markets.'



ELMEC HEATERS

Elmec has more than one million heating designs and projects on file, to which will be added the Ceramicx expertise in infrared heating; including ceramic elements.

Elmec business development director, Sundar Sundarraj explains that the plastics focus of the Plastivision exhibition in Mumbai will give India's plastics industry an excellent showcase to try the Ceramicx infrared heating products: 'India's plastics thermoforming industries, for one, now have a first hand opportunity to see for themselves how they can make their products with even less energy – thanks to the energy-saving ceramic elements made by Ceramicx – and now supplied all over India by Elmec.'

The Indian manufacturing economy continues to show some bright spots within a cautious global manufacturing outlook. A tradition of smaller family-run manufacturing businesses now shows many more medium to large manufacturing businesses across the Indian continent. 'The current experience is that our economy is booming,'

says Sundarraj. 'especially from 2008. As well as increasing in scale, Indian manufacturing is also fast taking on all the disciplines and benefits of cost and quality improvements – including ISO schemes, JIT and Six Sigma work practices, CE and TUV marketing and so forth.' Sundarraj adds that 'the Ceramicx product – fully traceable – is completely in line with this trend to higher quality. The energy and cost saving of the Ceramicx product will also be very appealing to all kinds of buyers in India.'

Frank Wilson says that 'Elmec will help us reach many of India's growing band of enterprising manufacturers. At the Plastivision show in Mumbai, for example, we met many thermoformers who are still working hard to keep up with India's growing industries – in automotive, teletronics and white and brown goods. We feel that the Ceramicx expertise in heat work and platens for large plastic thermoformed parts will be particularly welcome in the growing Indian market.'

Sundarraj comments that 'we have very much enjoyed working with Ceramicx and we achieved our first key sales at the Plastivision show last month. Throughout 2011, we predict that Elmec's nationwide sales network and experience with infrared heating will work very positively with the superior Ceramicx infrared products. We look forward to updating Indian industry with all our news as we and Ceramicx go forward together.'



Mr Sundar Sundarraj, Business Development Director, Elmec Heaters India, at the K-Show, Düsseldorf.

For further information www.elmecheaters.com





CERAMICX INFRARED HEATING WARMS THIS YEAR'S PLASTEURASIA SHOW

Ceramicx made a successful debut with its new Turkish partner Ser Rezistans at Plasteurasia, Turkey's annual plastics exhibition in Istanbul.



Now in its twentieth year, Plasteurasia continues to grow and also to reflect Turkey's status as one of the world's most dynamic and growing plastics economies and locations for plastics processing. Ceramicx and Ser Rezistans used the show to present the company's infrared heating portfolio to the Turkish markets and to aim the products directly at the country's expanding thermoforming businesses.

The distinctive Ceramicx logo was hung in plain view of the entrance to the Plasteurasia exhibition and Hasan Duman of Ser Rezistans reports a very positive reception for the company. 'We offer a very wide range of heating products for the plastics sector. The addition of Ceramicx expertise in infrared technology and in heating for thermoformers gives us a very commanding position in the marketplace.'

Hasan explains that 'Ser Rezistans is one of the fastest growing supplier company in the Turkish market – not least because of our commitment to values of hard work and integrity. This year's PlastEurasia exhibition showed everyone the strength of our plastics industry relationships worldwide - from America to Ireland, Italy and Middle East region. Some of the biggest Turkish names in brown and white goods production visited our stand this year – wanting to know more about how our heating solutions could help their production.'

Hasan add that 'the Turkish infrared market is hungry for products that can demonstrate very good quality and show an excellent performance/ price ratio. With Ceramicx now in our portfolio, our Ser Rezistans sales opportunities are very much expanded. And - on a personal level - I very much admire the Ceramicx full traceability system for its infrared products. It gives its partners and associates much confidence and I know that it is leading the way – in Turkey and elsewhere.'

Following the success at Plasteurasia, Hasan says that 'one of our primary aftermarket sales targets will be producers of thermoforming machines in Turkey. Also included in our marketing will be anyone who uses plastic thermoforming machines in their manufacturing process - especially Turkey's packaging industries.'

The Ceramicx quartz and halogen heater series will also give us some good sales and marketing opportunities in the areas of textile; printing, paint drying, curing and other operation.' Hasan points out that overall the Turkish marketplace has much diversity and opportunity. 'Turkey has the fourth biggest plastic industry market in the world - and Turkey GDP continues to outpace most other economies over the last eight years.'

Last November's triennial K exhibition – best ever for Ceramicx – saw the company receiving a rising volume of applications engineering enquiries for infrared know-how; products and expertise. Wilson expects a number of projects to emerge from Turkey via Ser Rezistans: 'Turkish manufacturing is in a positive place – with open opportunities for its understanding and application of infrared heating,' says Wilson, 'The K exhibition showed us that there are large numbers of innovators in plastics – all seeking places to produce. Turkey is fast becoming a plastics processing location of choice.'



*Right The Ser Rezistans team relaxing at the PlastEurasia exhibition
Left The design for Ser Rezistans stand incorporated the Ceramicx Logo*

For further information www.serrezistans.com



CERAMICX STANDARD PRODUCT RANGE



Drawing No. 050203A
245 x 95mm (9.65" x 3.74")
300W - 1500W

LFFE Large Full Flat Element



Drawing No. 050203B
245 x 110mm (9.65" x 4.33")
300W - 1500W

LFTE Large Full Trough Element



Drawing No. 190401B
245 x 60mm (9.65" x 2.36")
150W - 1000W

FFE Full Flat Element



Drawing No. 130201A
245 x 60mm (9.65" x 2.36")
150W - 1000W

FTE Full Trough Element



Drawing No. 190401C
122 x 60mm (4.8" x 2.36")
125W - 500W

HFE Half Flat Element



Drawing No. 130201B
122 x 60mm (4.8" x 2.36")
125W - 500W

HTE Half Trough Element



Drawing No. 190401D
60 x 60mm (2.36" x 2.36")
125W - 250W

QFE Quarter Flat Element



Drawing No. 050203C
60 x 60mm (2.36" x 2.36")
125W - 250W

QTE Quarter Trough Element



CERAMIC ELEMENTS



Drawing No. 190401A
122 x 122mm (4.8" x 4.8")
150W - 750W

SFSE Square Flat Solid Element



Drawing No. 050203G
122 x 122mm (4.8" x 4.8")
250W - 800W

SFEH Square Flat Element Hollow



Drawing No. 080702E
245 x 60mm (9.65" x 2.36")
150W - 800W

FFEH Full Flat Element Hollow



Drawing No. 050203H
122 x 60mm (4.8" x 2.36")
125W - 400W

HFEH Half Flat Element Hollow



Drawing No. 181207A
60 x 60mm (2.36" x 2.36")
125W - 200W

QFEH Quarter Flat Element Hollow



Drawing No. 050203I
60 x 60mm (2.36" x 2.36")
150W - 250W

QCE Quarter Curved Element



Drawing No. 27602A
245 x 60mm (9.65" x 2.36")
150W - 1000W

FTE-LN Full Trough Element - Long Neck



Cerix Thermocouple

Drawing No. 050203F
Ceramic element with built in
Thermocouple K type
Standard

Thermocouple J type
Standard



Drawing No. 050505G
285 x 60mm (11.22" x 2.36")
150W - 1000W

FTEL Full Trough Element Long



ESE Ceramic Bulbs



ESEB Drawing No. 240907MA
Dia 64 x 137mm (Dia 2.52" x 5.39") 60W - 100W

ESES Drawing No. 240907MB
Dia 80 x 108mm (Dia 3.15" x 4.25") 60W - 100W

ESER Drawing No. 240907MD
Dia 95 x 140mm (Dia 3.71" x 5.52") 100W - 250W

ESEXL Drawing No. 240907MC
Dia 138 x 135mm (Dia 5.43" x 5.31") 500W



FTEL-LN Full Trough Element Long - Long Neck

Drawing No. 170805A
285 x 60mm (11.22" x 2.36")
150W - 1000W





Drawing No. 060201A-R2
247 x 62.5mm (9.72" x 2.46")
250W - 1000W

FQE Full Quartz Element



Drawing No. 060201B-R1
123.5 x 62.5mm (4.86" x 2.46")
125W - 500W

HQE Half Quartz Element



Drawing No. 060201E-R1
62.5 x 62.5mm (2.46" x 2.46")
125W - 250W

QQE Quarter Quartz Element



Drawing No. 100101A-R2
247 x 62.5mm (9.72" x 2.46")
250W - 1000W

PFQE Pillar Full Quartz Element



Drawing No. 050203L
123.5 x 62.5mm (4.86" x 2.46")
125W - 500W

PHQE Pillar Half Quartz Element

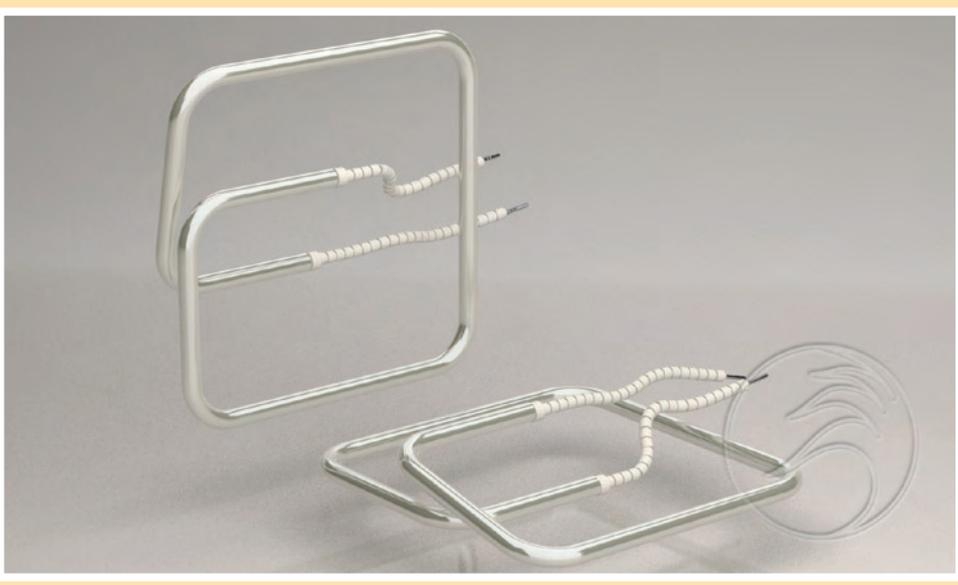


Drawing No. 050203M
123.5 x 123.5mm (4.86" x 4.86")
150W - 1000W

SQE Special Quartz Element



Heater Type **FQE, HQE**, with
Thermocouple K in centre tube



STQH

Single Tube Quartz Heater

100 x 100mm (3.94" x 3.94")
Drawing No. 220202A
150W - 400W

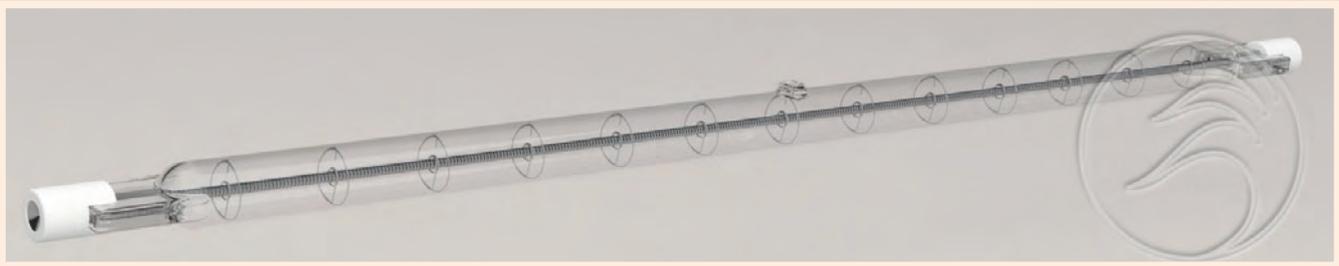
112 x 112mm (4.41" x 4.41")
Drawing No. 040401C
150W - 400W

140 x 140mm (5.51" x 5.51")
Drawing No. 080302D
150W - 650W

150 x 150mm (5.91" x 5.91")
Drawing No. 130600A
150W - 650W



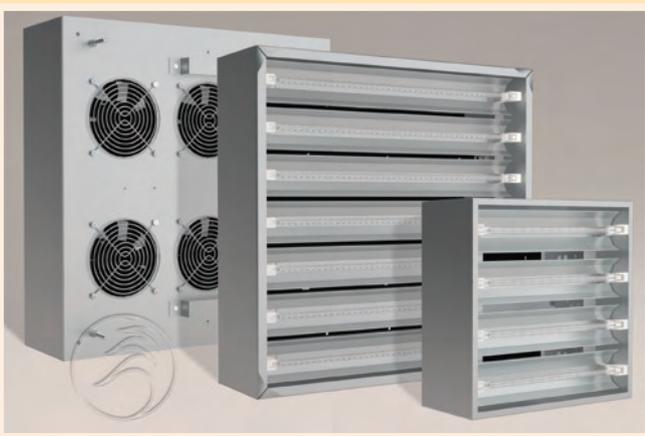
QTS	Quartz Tungsten Short	Dia. 10 x 224mm (Dia. 0.39" x 8.74")	Drawing.No. 150601S	750W / 240V
QTM	Quartz Tungsten Medium	Dia. 10 x 277mm (Dia. 0.39" x 10.91")	Drawing.No. 150601A	1000W / 240V
QTL	Quartz Tungsten Long	Dia. 10 x 473mm (Dia. 0.39" x 18.62")	Drawing.No. 140601A	2000W / 240V



QHS	Quartz Halogen Short	Dia. 10 x 224mm (Dia. 0.39" x 8.74")	Drawing.No. 150601S	750W / 240V
QHM	Quartz Halogen Medium	Dia. 10 x 277mm (Dia. 0.39" x 10.91")	Drawing.No. 150601A	1000W / 240V
QHL	Quartz Halogen Long	Dia. 10 x 473mm (Dia. 0.39" x 18.62")	Drawing.No. 140601A	2000W / 240V

Quartz Halogen Heaters

Range of different sizes Range of wattages and voltages Available in clear and coloured glass
 Range of termination options Available with gold and ceramic reflective coatings



FastIR 305

Drawing No. 041103B
 305 x 305mm (12" x 12")
 Fitted with 1000W quartz tungsten/halogen heaters (QTM/QHM)
4 TUBE - 4KW 5 TUBE - 5KW

FastIR 500

Drawing No. 041103A
 500 x 500mm (19.7" x 19.7")
 Fitted with 2000W quartz tungsten/halogen heaters (QTL/QHL)
6 TUBE - 12KW 7 TUBE - 14KW





247 x 62 x 60mm
(9.7" x 2.44" x 2.4")
300W - 230/240V

PFAE Pillar Full Anodised Element



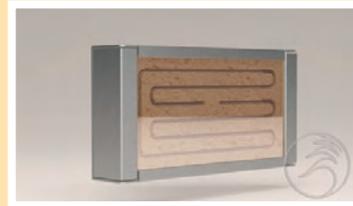
122 x 62 x 60mm
(4.8" x 2.44" x 2.4")
150W - 230/240V

PHAE Pillar Half Anodised Element



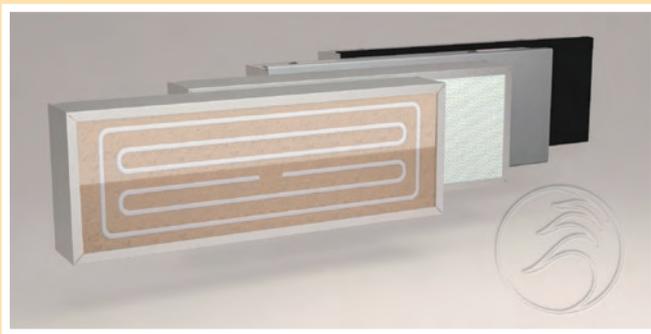
247 x 62 x 60mm
(9.7" x 2.44" x 2.4")
650W - 230/240V

PFRE Pillar Full Robax Element



122 x 62 x 60mm
(4.8" x 2.44" x 2.4")
325W - 230/240V

PHRE Pillar Half Robax Element



Panel Heaters

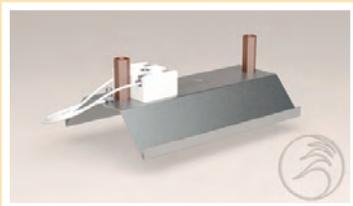
Available with surface face of anodised aluminium and glass

Range of different sizes available

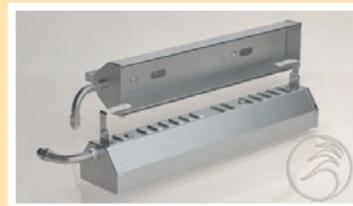
Range of wattages available for varying supply voltages

Multizone options with removable miniature thermocouple plug

Electrical connection via threaded stud terminal, connector block or flag terminal



RAS STANDARD
ALUMINISED STEEL
REFLECTOR
supplied **without heaters**.



PAS STANDARD
ALUMINISED STEEL
PROJECTOR
supplied **without heaters**.

RAS 0.5 Drawing No. 201102A
100 x 60 x 160mm (3.94" x 2.36" x 6.30")

RAS 1 Drawing No. 300600A - R1
100 x 60 x 254mm (3.94" x 2.36" x 10")

RAS 2 Drawing No. 050203U
100 x 60 x 504mm (3.94" x 2.36" x 19.84")

RAS 3 Drawing No. 031201A - R1
100 x 60 x 754mm (3.94" x 2.36" x 29.69")

RAS 4 Drawing No. 050203V
100 x 60 x 1004mm (3.94" x 2.36" x 39.53")

RAS 5 Drawing No. 220601A - R1
100 x 60 x 1254mm (3.94" x 2.36" x 49.37")

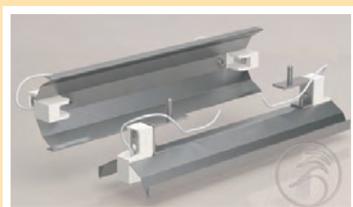
PAS 1 Drawing No. 050203W
94 x 76 x 258mm (3.7" x 2.99" x 10.16")

PAS 2 Drawing No. 111200A - R1
94 x 76 x 508mm (3.7" x 2.99" x 20.00")

PAS 3 Drawing No. 050203X
94 x 76 x 758mm (3.7" x 2.99" x 29.84")

PAS 4 Drawing No. 120700A - R 1
94 x 76 x 1008mm (3.7" x 2.99" x 39.69")

PAS 5 Drawing No. 050203Y
94 x 76 x 1258mm (3.7" x 2.99" x 49.53")



Drawing No. 100701A

QUARTZ TUNGSTEN / HALOGEN REFLECTORS

QTSR Quartz Tungsten Short Reflector
247 x 62mm (9.72" x 2.44")

QTMR Quartz Tungsten Medium Reflector
302 x 62mm (11.89" x 2.44")

QTLR Quartz Tungsten Long Reflector
497 x 62mm (19.57" x 2.44")



Drawing No. 050203N

CERAMIC BULB REFLECTOR

Dia. 220 x 110mm
(Dia. 8.66" x 4.33")



Drawing No. 161202A

E27 EDISON SCREW BULB HOLDER

Dia. 53 x 74mm
(Dia. 2.09" x 2.91")



Drawing No. 050203O

2P CERAMIC TERMINAL END BLOCK WITH STAINLESS STEEL FITTINGS

40 x 32 x 20mm
(1.57" x 1.26" x 0.79")



Drawing No. 210803C

3P CERAMIC TERMINAL END BLOCK WITH STAINLESS STEEL FITTINGS

62 x 32 x 20mm
(2.44" x 1.26" x 0.79")



Drawing No. 050203O

2P CERAMIC TERMINAL END BLOCK NO METAL FITTINGS

40 x 32 x 20mm
(1.57" x 1.26" x 0.79")



Drawing No. 210803C

3P CERAMIC TERMINAL END BLOCK NO METAL FITTINGS

62 x 32 x 20mm
(2.44" x 1.26" x 0.79")



R7S CERAMIC HOLDER FOR STANDARD QT/QH HEATER RANGE



FLAT CERAMIC BASE HOLDER FOR HALOGEN / TUNGSTEN HEATERS FITTED WITH A FLAT CERAMIC BASE



Drawing No. 050203Z

STAINLESS STEEL BUZZ BARS

8 x 2 x 1000mm
(0.31" x 0.08" x 39.37")



STQH HOLDER FOR ALL STQH TYPE HEATERS



Drawing No. 090103A

MOUNTING BRACKET

73 x 57 x 25mm
(2.87" x 2.24" x 0.98")



Drawing No. 100501A

STEEL WAVE SPRING AND CLIP SET



ONE PIECE SPRING / CLIP STEEL



Drawing No. 060203A

V CLIP AND SCREW SET



CERAMIC BEADS LOOSE



CERAMIC BEADS STRUNG





PUBSUN

Pubsun with heater type FTELN in wattages up to 650W per heater. Suitable for indoor and outdoor covered use.

PUBSUN 2 Drawing No. 111200A - R1
96 x 76 x 508mm (3.78" x 2.99" x 20.00")



PUBSUN 3 Drawing No. 050203X
96 x 76 x 758mm (3.78" x 2.99" x 29.84")



Available in polished aluminised steel finish or coloured powder coat.

- Polished aluminised steel with white elements
- Cream with cream elements
- Black with black elements
- Red with white elements



COMFORT IR

1.3kW 230/240V or 120V High efficiency white glazed ceramic infrared elements.
Choice of black powder coat or polished stainless steel finish Minimum order of 6



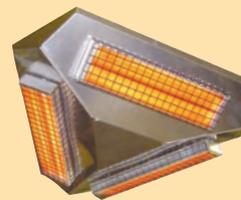
COMFORT IR +

1.3kW
230/240V or 120V
High efficiency black glazed ceramic infrared elements.



Choice of black powder coat or polished stainless steel finish

Individually boxed with minimum order of 6



quartz elements



ceramic elements

Available with high efficiency black glazed ceramic infrared elements or quartz medium wave elements

COMFORT IR 360

1.95kW 230/240V or 120V 450 x 450 x 160mm (17.72" x 17.72" x 6.3")

Ceramicx sets out the shop for leading UK innovators



The year ahead will see the UK and Ireland take a leading role in the activities of Ceramicx. Cáthál Wilson, Ceramicx Project Manager, looks ahead.

Cáthál says that 'we see that – for the year ahead in infrared heating – that the UK has an interesting mix of work for us and a calendar of exhibitions and events; in plastics and packaging to attend. The Ceramicx activity mix includes applications engineering; technical and commercial collaborators (including University Research departments) together with plastics processing needs, particularly in thermoforming but also with a new focus on blow molding.'

The Ceramicx online shop – available only to Irish and UK customers – will play a key part in the development of the Ceramicx UK market through 2011. 'Many UK manufacturers simply need the opportunity to quickly and effectively replenish their stock; pre-empt any line stoppages by having a stock of spare parts ready; and re configure their infrared heating in a simple way without having to call out engineers or specialists. That is what our online shop is for – and we expect to be increasing its profile and product range this year.'

The Ceramicx online shop has been fully invested in so that the 3D product images convey realistic visual detail and the accompanying technical specifications also lay out the full picture. This new 3D control will further enable Ceramicx to provide a fuller and bespoke service in regard to infrared specialist heater design

Cáthál adds that 'clearly our online shop goes hand in glove with our leading achievements in quality control and assurance. (See pages 18-19 for details). Ceramicx has the confidence that it makes superior and fault-free products and – thanks to our new system – the customer is able to check the technical parameters of everything bought from us – online at anytime. The UK and Irish customers are thus ideally placed to forge their day-to-day relationship with us.'

The Ceramicx UK order book for UK plastics thermoformers continues to grow; from infrared heating solutions for high speed packaging lines to thermoforming machines for large mouldings; in white goods and in automotive applications. Ceramicx is also looking forward to getting the best out of the UK's spirit of innovation as exhibited

in three key shows coming up this year. 'Packaging Innovation at the NEC, Feb 16-17 will give Ceramicx the opportunity to sample some of the change makers and play makers in that industry,' says Cáthál, 'and for pure plastics design know-how we are looking forward to London's Excel Centre, May 18-19th for the Plastics Design and Moulding Exhibition. Interplas 2011, September 27-29 will also be on our list – as a prime means of reaching the UK plastics processing community.'

Cáthál says that some of our most challenging and innovative work in infrared heating has been driven by centres of higher learning. We enjoy our relationships with UK, Irish and German Universities, for example, and are always looking to find solutions together.

Last year, for example, saw Ceramicx help solve a very interesting problem for a University that was investigating the distortion of complex pressure vessel systems under varying thermal boundary conditions. The project brief requires that the vessel be heated to temperatures in excess of 400°C, and that a variety of heat flux distributions be considered.

Thermally induced distortion of the vessel were to be measured using laser triangulation sensors that could be traversed circumferentially and axially along the part. These measurements were to be made under a variety of heating conditions, with and without an external cooling system. Ceramicx accordingly designed, built and supplied a bespoke infrared heater assembly for the University's needs.

The final system included a 56 element 65kW radiant heater for application on the inner surface of roughly conical vessels, giving the capability to vary the output power from each element individually. 'Though we say it ourselves,' says Cáthál, 'our experience and know-how was essential for this complex build – especially in the areas of heater element specification, reflector properties and overall build standards and specifications.'

As with many things, variety is the key and the Ceramicx work in the UK is proving to be no exception. For further details of the Ceramicx online shop contact Gráinne or Amanda (sales@ceramicx.com)

For applications engineering contact Frank Wilson (frank@ceramicx.com) or Tadhg Whooley (Tadhg@ceramicx.com).



THERMOFORMING PERFORMANCE

PREDICT IT WITH T-Sim

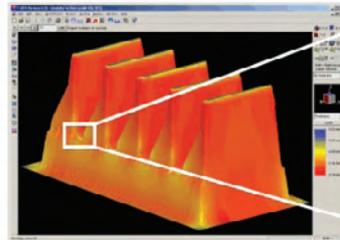
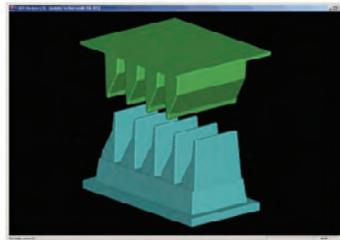
Ceramicx has long been campaigning for the world's plastics thermoforming industry to increase its profile and market share – based on the growing quality and cost-effectiveness of its work. Says Ceramicx Founder Frank Wilson, 'with every month, opportunity grows for thermoformers to win all kinds of business in many markets.'



David Russell
Chief Executive

David Russell Associates
Advisors in Plastics
www.consultr.net

Ceramicx is accordingly delighted to report on a pioneering company that is offering yet further ways to advance the process and the products made.



'David Russell,' says Wilson, 'is doing revolutionary work in many thermoforming areas – not least in his campaigning for high pressure forming methods and also in the progress made with the T-Sim mould simulation software. As suppliers of perhaps the most important part of the thermoforming process – the thermo/heat – we at Ceramicx are looking forward to combining our talents with him and taking the predictive expertise and accuracy of the process to new levels.'

“The future of thermoforming has to be infrared-based...”

David Russell responds that 'the future of thermoforming has to be infrared-based. Not only for its cost-effectiveness but for the great accuracy and directional control it offers in service. I look forward to working with Frank and the Ceramicx team in order to offer a number of new and improved solutions to the market.'

Another key strand to Russell's work in thermoforming is use of simulation software. 'Compared to practices in the injection moulding world this is not as well known in thermoforming as it should be,' he says. 'Not only does greater quality and accuracy result – but thermoformers can save time, materials and money through using bespoke programmes such as T-Sim.'

T-Sim is a simulation software package which predicts the final wall thickness distribution of a thermoforming – before any moulds are cut. The package also quickly predicts the effect of design improvements. T-Sim designs and costs can be optimised for thermoformers and toolmakers on the computer within a few hours, start up times can be reduced and the minimum materials and cycles can be used from day 1.

Russell, notes that the European continent is leading the way in embracing this technique and cost-saving measure. 'The scientific route to design and cost management is always ultimately the most effective.' Two European thermoformers of Russell's acquaintance used simulation software on existing jobs and reported savings of 9% and 16%. 'A 9% cost reduction,' he notes, 'multiplied by thousands or perhaps millions of mouldings, is a substantial amount of cash for a company to generate for themselves without the time and cost of shop-floor experimentation.'

Moreover - in simple terms - the T-Sim software lets designers, processors and engineers see – with a high degree of accuracy – what the product will look like before it is made. Russell adds that 'the programme's 'what-if' capability allows fast improvements to design and processing conditions to optimise the product -- long before tools are cut.'

The latest version of T-Sim software for thermoforming offers something moulders have long awaited – automatic optimisation of plug design for best material distribution. T-Sim also gives 3D colour maps of thickness, temperature, stress and extension. 3D cuts allow investigation of thin areas for design modification. The results can be exported for structural analysis to Ansys, IGES, DXF, Cosmos/M, Patran and LS-Dyna files. T-Sim can also pre-distort images for the in-mould decoration process

Frank Wilson summarises that 'It's time – both technically and commercially - for thermoformers to step up to 'state-of-the-art' practices and to compete at the highest levels. Many OEMs and buyers have no prejudice or even interest in how their plastics parts are made – just as long as they make the grade. With David Russell, we hope to be building thermoforming systems – bespoke and standard – that lack for nothing in terms of quality and fitness for purpose.'

Making the best WITH THE best quality

Ceramicx has signed off its new product quality control and assurance project, conducted in partnership this year with specialist engineers from the University of Limerick.

Founder and director Frank Wilson believes that his company's ceramic elements now lead the world – 'for quality, for product traceability and value for money. Anyone who purchases an element from us is secure in the knowledge that they have also purchased the heat performance metrics for that exact product – and that those product performance metrics are open and available to the customer - online and at any time.'

The core of the new quality assurance (QA) work centres on developing systems of more closely specified nominal wattage tolerances for the ceramic and quartz electrical elements through the range of Ceramicx products. Dr Mark Southern of the University of Limerick team says that 'phase one of the project delivered the semi automated

Flash test

This QA test allows the electrical integrity of the insulating materials to be verified and is designed to catch manufacturing defects that could otherwise lead to exposed electrical heating elements and wires.

Paramater	Stn 1	Stn 2	Stn 3	Stn 4	Stn 5	Results
Wattage	682	678	681	679	680	679
Dielectric		Pass	Pass	Pass	Pass	Pass
Heating			Pass	Pass	Pass	Pass
Integrity				Pass	Pass	Pass

Thermal analysis

After reaching the target temperature, IR images of the product are then recorded in order to provide for a visual inspection of the heating element within. These images are unique for each product tested – are matched to that product's serial number – and are traceable. These images will also be statistically analysed by the test software to determine the heat distribution across the product – and identify hot or cold spots. And for models with built-in thermocouples, the integrity, operation and placement of these thermocouples will also be validated.

Nominal tolerance test

This QA test will establish the degree to which the actual wattage of a given product deviates from its rated wattage and can assist in reducing large variations.

Load test

For this test, the product is energised with high-voltage electrical power to rapidly elevate its temperature. The measured temperature reached within a given time frame then allows the functionality of the product to be assessed.

elements assurance



validation system with closed-loop process-control and is now both guaranteeing the product quality – and assigning and recording performance characteristics data for each part as it is produced.

Ceramicx state of the art QA system developed in phase one provides data that is accurate, repeatable and reproducible. This data provides the foundation for optimising the process and involves determining the signal and control factors in the process and selecting the optimal parameters and settings which are least sensitive to this noise. Signal factors are those which affect only the level of output, and control factors are those which affect the variation in output. If both are optimised the result is a robust process with reduced non-conformance and variability.

Four key validation stages are now part of the new Ceramicx QA system:

Flash test

Load test

Thermal analysis

Nominal tolerance test

Phase two of the Ceramicx quality assurance project will now utilise an innovative knowledge management tool which combines a consensus building tool coupled with statistical experimentation and computational simulation modelling. Dr Southern says that 'we have established the current level of knowledge that exists in the Ceramicx production teams and are utilising statistically designed experiments to synthesise this knowledge into understanding the effects of process variability on changes in output performance characteristics.' He adds that 'these powerful but rarely combined tools will optimise Ceramicx's processes and products by exploiting the non-linear effects of the process parameters on the performance characteristics of Ceramicx Infrared heaters in order to determine settings which minimise variation within the product or process.'

Frank Wilson notes that 'thanks to our continuous investment and persistence in this important area, we have succeeded in creating a transparent quality and product traceability process. We are now setting our sights on other kinds of manufacturing targets and future technical developments.'

Ceramicx and the University of Limerick have been aided by Enterprise Ireland as part of the Innovation partnership program. The work has provided 'win-win' outcomes for both organisations. The University has been enabled to take its research and project expertise into the manufacturing and commercial marketplace. Ceramicx has been able to leverage the University's in-house competencies to research, identify and measure current process variations.

Ceramicx Ireland Ltd. Validation Report	
Ceramic Element Type	FTE650
Serial Number	650
Rated Wattage (W)	230
Rated Voltage (V)	28.05.2010
Date of Manufacture (dd-mm-yyyy)	76.50
Cold Resistance (Ω)	Pass
Di-Electric Test	<5mA@1500Vac
	Pass
	None
	30.30
	Validated
	Thermal Image of 05101316344 under test
	Timestamp (dd-mm-yyyy-hh:mm:ss) 28.05.2010 10:58:12



A LIFETIME IN THERMOFORMING



Ken Braney, President of the Society of Plastics Engineers.

Ceramicx has great pleasure in opening up the pages of HeatWorks magazine to a number of key figures in its marketplaces. Here, Ceramicx Founder Frank Wilson talks with Ken Braney, President of the Society of Plastics Engineers. Ken – a UK national - is the first non-American to have been elected to the post. His annual term of office has included the K 2010 exhibition in Dusseldorf and preparing the way for the SPE's ground breaking conference event EUROTEC in Barcelona alongside Equiplast in November 2011.

Ken – you have spent a lifetime in plastics manufacturing – and much of it in the plastics thermoforming sector – which accounts for many of our infrared heating products at Ceramicx. What are the biggest changes that you have seen in plastics manufacturing over your career?

The biggest changes have been the speed and accuracy of the thermoforming equipment. When I first came into the industry the majority of manufacturers of both heavy duty parts and packaging were smaller companies and a number of 'Mom and Pop' type operations. Today there are many multi-national companies with plants all over the world. Companies like Huhtamaki, Solo, Vitalo, Autobar etc. The packaging sector have gone for speed and accuracy and thermoforming speeds are now into the 50's and 60's cycles per minute, where they were 20 plus when I started. The quality of the forming has improved immeasurable as well, due to the new equipment, initially the heating was by cal rods, now all types of heating is available and with computer controls you can achieve a very defined result ensuring the product is heated perfected before forming and accurately trimmed either in mould or as a secondary operation. The other major change in the industry is the addition of stages in the thermoforming cycle, originally the product was formed and then went to printers, packers etc. Now you have in mould labelling during the thermoforming cycles. You have packaging equipment in line so the product starts as a sheet of plastic and when it reaches the end of the line it is packed into a carton without any human hand touching the product. Automation has greatly increased productivity in both thin sheet packaging and is now reaching into the heavy duty side of the industry

In your time with some of the bigger names in thermoforming – Brown Machine for

example – what were the key issues involved in thermoforming manufacturing. How has thermoforming itself changed over the years? Have there been quantum shifts – or is the essence of it still the same?

The key issues then as now is the quality of the product, whether it is to make lots of packing type products on a continuous line or to make larger products on single or twin sheet machines. The range of products that are now produced are mind blowing from the smallest technical medical product to the very large twin sheet roof coverings for tractors.



Both are made exactly as specified due to the quality of the equipment and the computer controls that can change heating, pressure, speed in an instant to meet the needs of the product design.

Our business at Ceramicx is in infrared heating – much of it goes into thermoforming – in the shape of the thermo! How well is infrared understood in thermoforming and in industry generally?

The industry wants to ensure the end product on the thermoforming line is of the best quality with low

rejection and the best possible cost. Infrared heating is a key element in that process and with all the latest controls and product improvements in this area it ensures the thermoforming company has the best opportunity to achieve their goal of good product at the best possible cost, the better the infrared the better the final result

How do you see the climate for plastics manufacturing currently?

The market is slowly recovering, there were some major problems during 2008/9 but I can see a slow recovery happening. The key element is not only the end market but also the cost of raw materials. Oil prices are up again and there is a concern that this will impact the plastics industry. All ways to keep manufacturing costs down have to be taken, either in the type of material used, reducing the scrap levels or trying to achieve energy savings. All are vital if we are to see the modest growth that has started, continue through 2011.

What are the main differences you notice between European plastics manufacturing and US plastics manufacturing?

In the past the major differences were in size of operation, the USA market with 250 million consumers was always the long production before changing tools market, where as the European market was fragmented in all the different countries. Today Europe is much more centralized and therefore the volumes are much higher in the European market than they were before. The equipment used in the USA was also different, in packaging the thermoformer always formed upwards and the trim was always at another stage, where as in Europe the forming was always downward and the majority of trimming was in mould. Today the majority of USA manufacturers still stick with the two stage operation and the market for their equipment has grown where packaging is needed in vast volumes, such as MacDonald's products, coffee cups, plates etc. The main complaint in the past regarding USA style machines was their accuracy in cutting difficult materials such as polypropylene, the material moved after forming and it had normally to be held in place while trimmed to ensure an accurate cut. Today with the latest in heating and electronics the material can be trimmed separately as accurately as trim in place. The other main difference was the size of machines, cup machines with 240 cavities are known to be run on USA style machine at high speeds, so millions of cups per machine per day are produced. That is why the smaller European style machine with their trim in place technology had to be speeded up to compete.

What role does the Society of Plastics Engineers perform in today's industry?

What scope is there for thermoformers? The major role SPE carries in the plastics industry is the ability to obtain and spread information to all its members via its extensive library of technical information from all its conference and technical reviews over the last 50 years. Its ability to attract both industrial as well as academic people to its membership and their ability to impart the latest information and ideas via conferencing, technical papers and the most important part of all the networking ability through over 16,000 members world wide.

What has the SPE got planned for 2011?

A number of major events, the launch of its new website which is being completed at this time, it will be 'state of the art' to ensure all members can utilise every part of the website, including purchases and payment systems that have not been available before. The Plastics Engineering magazine website will be connected so all members can read on line not only today's magazine but past copies as well, the plastics encyclopaedia, the details on any conference any where in the world that is being sponsored or put on by SPE will be available. In February SPE is launching ASIATEC that will take place in Tokyo. The Japanese and South Korean SPE Sections are running this conference and it will be ably supported by the SPE Headquarters. Then in March the SPE Additives and Colour Europe Division will be putting on their conference in Bonn Germany.

On 1-5 May there is the ANTEC Conference in Boston, that will entail the passing of the baton from myself to Russell Broome who takes over as President of SPE. There will be over 800 technical papers presented at this conference and we expect up to 2,000 people to attend. The other major event in the year will be EUROTEC, this is an 'ANTEC type' conference that will be held at the same time as Equiplast in Barcelona in Spain. We have had a fantastic response so far and we have had a great response from sponsors such as Ticona, Schulmann, RAPRA etc. Our goal is to have over 250 papers presented and already the SPE European Thermoforming division have committed to produce 11 that will mean a full day of thermoforming related papers.

What plans have you got Ken once you hand the SPE presidency over in May 2011

As Past President I have been asked to keep involved in spreading the SPE message, in early 2011 I will be visiting both the Middle East and India to discuss involvement of the major companies in the region in further conferencing and technical programs. These activities will be planned for 2012 and 2013. So my activity in SPE will certainly continue for the next two to three years



THE FUTURE IS

International heating systems specialist and manufacturer Ceramicx is determined to make 2011 the year that plastics thermoformers embrace their own best interests and get more out of their production - for less energy and cost.



Ceramicx founder and Managing Director Frank Wilson says that 'this year's K 2010 exhibition confirmed to us that a large part of the industry is ready for the message and ready to look at their heating methods and energy usage. The part that isn't ready, will get left behind.'

Wilson says that 'it still amazes me to note the number of thermoformers who see no need to measure the energy consumption on their machines. The 'thermo' and energy efficient needs in thermoforming are critical to the profitability of the whole operation.'

Ceramicx believes that upgrading the heating systems and platens to infrared-based technology in the coming year will be one of the smartest moves any plastics thermoformer could make. "Short term, replacing a whole machine may not be possible or

Wilson says that – judging at least from the feedback at K-2010 and Arabplas 2011 - 2011 should see many thermformers making good New Year's resolutions that throw out these wasteful old practices and ring in new modern methods of heating. 'Even installing a simple energy monitoring device – an energy 'mileometer' as I call it - is as good a place as any to get some awareness of the energy issues.'

The wholehearted commitment of Ceramicx to the new low-energy manufacturing agenda has been recognised within Ireland and has resulted in the company being appointed to the nation's competence centre for manufacturing and to the Competence Centre for Energy.

Ceramicx is in fact the first of only two small to medium sized enterprises (SME) that is taking part in the energy efficiency project. I2E2 (www.i2e2.ie) contains names such as DePuy, Intel, Xerox, Boston Scientific and others.



“...it amazes me the number of thermoformers who see no measure the energy consump

even desirable. But for a very low outlay an upgrade to a fixed and expensive capital asset can be supplied. Not only can a new heating unit pay for itself within months, it can also make the user 40% more margin on the production output.'

Wilson adds that 'one typically never hears of mechanical issues in thermoforming – it's all to do with the heat operation – issues of burn out; with electrical faults and with problems with older style and non-directional heating where the thermoforming operator is being continually forced to ramp up the power and the input electricity in order to try and maintain a temperature.'

Wilson says that a host of other factors will contribute to thermoformers wanting to realise more margin and more money via infrared from their fixed production, including:

Frank Wilson says that 'the ICMR (www.icmr.ie) and indeed I2E2 has been an interesting experience for us all – brought all the more sharply into focus by the fresh political and economic challenges that the nation now faces. In some ways it has been a privilege for me to be the only SME manufacturing company at the table, in other ways it is a sadness not to see more SME faces.

Wilson says that 'it seems no accident to me that the strongest and most successful economy in Europe – Germany – has by far the largest number of owner-occupied manufacturing businesses in its economy. Owner occupied businesses hold their destiny more closely in their hands – make decisions in a different way and are more likely to remain closer

MAJOR REDUCTION IN CAPITAL EQUIPMENT WEAR AND TEAR	LIKE-FOR-LIKE INFRARED FOR TUBULAR REPLACEMENTS
ELIMINATION OF 'HOT BOX' TUBULAR PROBLEMS	NO NEED FOR CHANGES IN CONTROL OR INSTRUMENTATION
POOR PERFORMING INFRARED REPLACED WITH SUPERIOR PLATENS	SAVINGS IN DIRECTIONAL HEAT
BETTER RESULTANT PRODUCT QUALITY	IMPROVED SET UP TIME AND TOOL CHANGE TIME
MORE COMPLEX PARTS POSSIBLE	COOLING REQUIREMENTS ALSO REDUCED
MATCHING OF HEATING CONTROLS TO POLYMERS BEING PROCESSED	IMPROVED ENVIRONMENT FOR OPERATORS

LOW ENERGY



*need to
tion on their machines.* ”

to the ground, to the communities and the national environment in which they grew up in. They are also more likely to take action on energy efficiency in a more immediate and practical way.'

Wilson says that 'the best measurable infrared heating that we can make is also the most profitable. It also happens to require less energy to generate this type of heating. This advantage thus passes on to our customers a low carbon future in their manufacturing, domestic heating and other uses of the heating.'

The Ceramicx strategy to expand sales of its quality-assured and low carbon footprint heating all over the world is working. Wilson notes that 'we have raised year-on-year sales 30% last year 2010; we continue to export 98% of our output to over 65 countries and the demand is growing. We are one of Europe's market leaders in terms of our product quality and innovation and therefore we are in demand in China, Asia generally and all places where the need for guaranteed quality is paramount.'

In terms of environmental issues and ecology, Ceramicx continues to press its case. Wilson notes that we are still working hard with local government to resolve issues that will help run our factory through cheaper alternative energy sources which would then reduce the carbon footprint of the products

even more. Alternative energy would also make us near unbeatable in international markets, including China. Ceramicx is more than able to compete on a level playing field throughout the world – but we need our government and our society to recognise the benefits of industry and support it in more skilful ways. Hence our participation in the new competence centre initiatives.'

The I2E2 Centre will help deliver competence to companies in Ireland. 'The new tools will be born out of best Irish operated and developed practice and refined methodology through project engagement,' says Wilson. The centre's mission is defined as being 'to identify and drive world-leading research and innovation in order to help Irish manufacturing companies to reduce, on a sustainable basis, both the cost and the associated environmental impact of their energy usage.'

The I2E2 research areas have a 3-5 year horizon and include issues such as optimisation of compressed air systems; energy from low-grade heat; wind and wave power; eco energy parks; development of real-time energy usage.

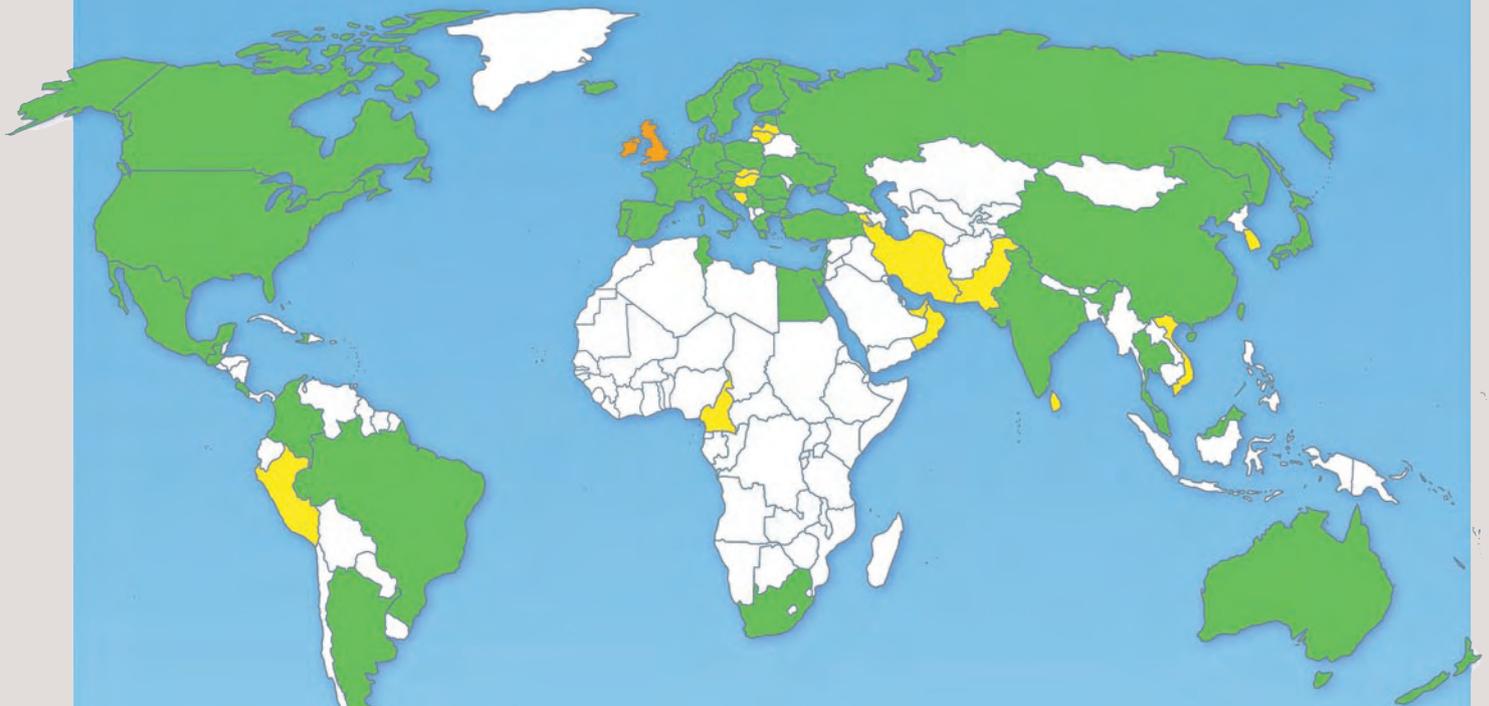
'Our global future has to be low-energy,' says Wilson, 'the sooner we all believe it and act accordingly, the better that future will be.'

All further details of Ceramicx thermoforming infrared platen systems from Frank Wilson, Ceramicx Managing Director. www.Ceramicx.com Tel. +353 2837510 Fax + 353 2837509 frank@ceramicx.com



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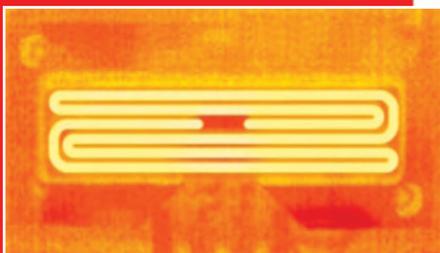
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