

FOR FAST TRACK ENTRY:
www.surfaceworld.com
**SURFACE
WORLD
LIVE**
2nd & 3rd MARCH 2022
NEC, Birmingham

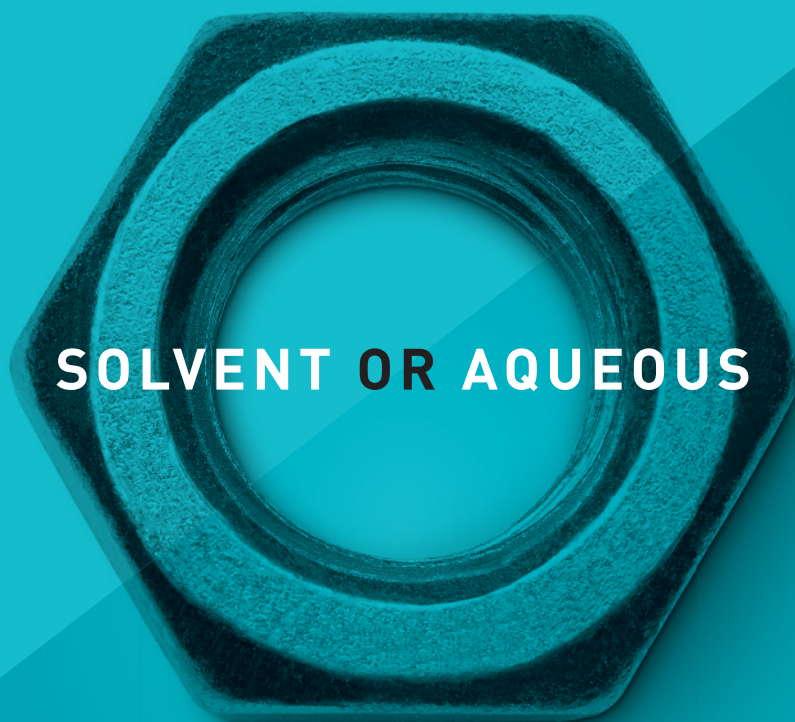
SURFACE WORLD

... we have
everything
covered

October 2021

read online @ www.surfaceworld.com ☎ follow us on twitter @surfaceworldmag ☎ visit www.surfaceworld.com

NOT KNOWING WHAT WORKS BEST FOR YOUR PARTS CLEANING?



SOLVENT OR AQUEOUS

Context is everything.

By understanding your needs, requirements and challenges, we can help you make the right decision.

So let's talk specifics at **Advanced Engineering, 3-4 Nov, NEC Birmingham (Stand H102)**.

Quality, cost efficiency and sustainability – it all comes down to making the right cleaning choice.

www.safechem.com



SAFECHEM
be responsible



PRODUCTS & PROCESSES



Fig 1

PhoenixTM help shine light on an Alloy Wheel coating operation!

See what truly happens in the powder coating oven process

Ever wondered what exactly happens to your product inside your paint oven during normal production? That is exactly what the PhoenixTM new Optic system for Paint Process monitoring allows you to do. The system can monitor the product temperature profile and simultaneously record video of your product travelling through the cure oven at temperature.

The PhoenixTM VIS-64 Optic system was recently used to validate the operation of the Ri Wheel Systems Ltd alloy wheel refurbishment line installed at the Dick Lovett Group. To our knowledge, this is the first time that a combined optical and temperature profile of a powder coating line has been performed.

Fig 1: PhoenixTM VIS-64 Optic System used on the Ri Wheel Systems Ltd alloy wheel refurbishment line at the Dick Lovett Group.

The PhoenixTM Optic system allows thru-process paint defect detection using optical profiling. The high-resolution video camera can safely travel through the paint oven with an independent torch recording video footage of what the product sees (Fig 2.1). The system is just like your car 'Dash Cam' the only difference being that the journey is through a cure oven operating up to 200 °C. During the same run a temperature profile of either the oven temperature and or product temperature can be performed using the PTM1200 data logger (Fig 2.2).

From the optical profile run, video of the alloy wheels journey through the oven was obtained showing smooth unhindered travel. The excellent field of view allowed a comprehensive inspection of the inside of the oven and operation of the chain on edge conveyor system (Fig 3).

CONTINUED ON PAGE 68

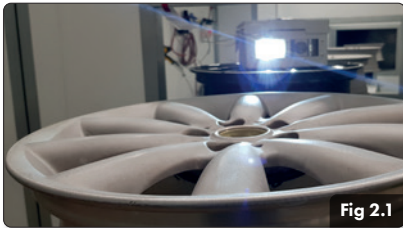


Fig 2.1



Fig 2.2



Fig 2.3

Amazingly, from the optical profile even detail powder coating process transitions were detected. As shown in Fig 3.1-3.3 it is possible to see the powder coating transitions from virgin powder through the melt, flow, and final cure stages.

Fig 2: 2.1 VIS-064 Optic system running through the oven. The torch providing illumination to allow clear detailed video capture in process. 2.2 Data logger temperature profile run performed simultaneously. 2.3 Two-way RF telemetry allows live temperature data to be transmitted direct from the oven to an external monitoring PC fitted with receiver antenna.

Fig 3: Still video image of the video captured thru-process showing

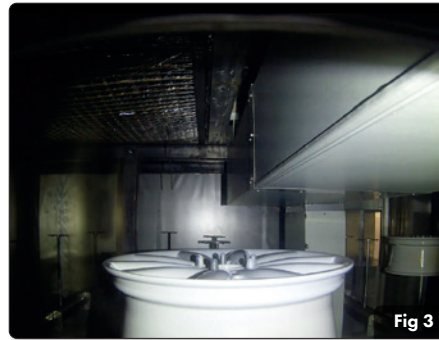


Fig 3

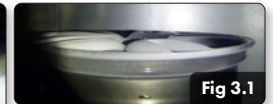


Fig 3.1

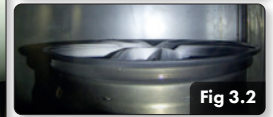


Fig 3.2



Fig 3.3

detail of the oven condition and wheel transfer. Also, closeup images capturing the powder lacquer cure process clearly showing the exact moments in the process where the powder melts and cures.

- 3.1 Virgin "white" lacquer powder after being sprayed on top rim.
- 3.2 Powder melts and flows forming matt clear surface layer.
- 3.3 Powder cures generating final gloss clear lacquer surface coating.

Consider combined temperature and optical profiling of your continuous paint cure process and open your eyes to the hidden mysteries of what happens inside that black box that is your paint cure oven. Whether temperature or optical monitoring, PhoenixTM your finishing oven to find, fix and forget those coating cure problems!

For more information: Contact Dr Steve Offley - Product Marketing Manager.

Telephone: +44(0)1353223100
 Email: Steve.Offley@phoenixtm.com
 Visit: www.phoenixtm.com

LANEMARK Gas Process Burners



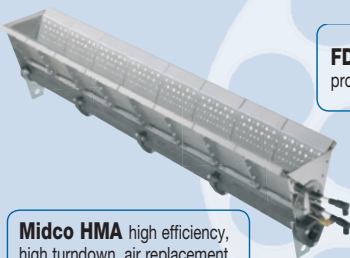
FD-C high turndown oven/dryer air heating burners.



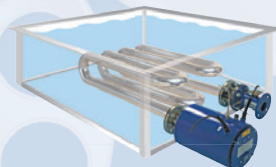
FD-E low cost high turndown oven/dryer air heating burners.



FD-GA modulating gas + air process air heating burners.



Midco HMA high efficiency, high turndown, air replacement or "make-up" air heating burners.



TX high efficiency small diameter immersion tube tank heating systems.

Lanemark gas burner systems offer users reliable, high efficiency, process heating solutions.

FD Series Packaged Oven/Dryer Burners

- Specifically designed for process air heating applications in convection ovens and dryers
- High turndown/short flame lengths providing accurate process temperature control
- High efficiency gas + air modulation, gas only modulation and simple high/low control options
- Heat Input Range: 9 kW – 1550 kW

TX Series Gas Fired Process Tank Heating Systems

- High efficiency (80%+) heating of all types of spray and dip process tanks
- Compact high efficiency small diameter immersion tube heat exchangers occupying minimum tank space
- Accurate performance modelling using Lanemark TxCalc design software
- Heat Input Range: 15 kW (1½") – 1150 kW (8")

Midco HMA Series Air Replacement or "Make-Up" Air Heating Burners

- Direct fired, high efficiency burner systems, for high volume air heating applications such as paint spray booths, ovens and dryers.
- Supplied either as Midco burner heads for OEM system integration or as Lanemark DB or FDB complete packaged systems including modulating gas valve trains and controls
- Wide range of firing rates to suit alternative temperature rise and air velocity system requirements
- DbCalc system design software

Lanemark Combustion Engineering Limited
 Lanemark House, Whitacre Road, Nuneaton, Warwickshire CV11 6BW United Kingdom
 Tel: +44 (0) 24 7635 2000 Fax: +44 (0) 24 7634 1166 E-mail: info@lanemark.com
www.lanemark.com

