

SURFACE WORLD

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the surface finishing industry

MAY 2026

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LIGHTS, CAMERA, CURE!

Seeing Inside Your Paint Oven for the First Time

PhoenixTM has developed a unique new Paint Process monitoring system, allowing for the first time, not only the traditional temperature profiling of the product temperature through the oven but also optical profiling of the products journey.

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. 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. The Optic system can be fixed on a test body with an adjustable mount option allowing monitoring of the exterior of a separate production body shell or potentially directly on a production body itself.

During the journey through the oven the painted car body can experience many problems that are not temperature related

that can affect the quality of the cured paint. Employing the PhoenixTM Optic system a video "Optical Oven Profile" can be recorded showing process engineers details of how their paint process is operating without the need to stop, cool and dismantle the oven. This allows safe routine oven inspection without the problems of costly lost production and days of oven down time.

From the video evidence the root cause of process problems, possibly already highlighted by running the PhoenixTM temperature profile system, can be identified accurately and efficiently.

Oven structural damage or faulty oven furniture such as recirculating fans, control thermocouples or heater elements can be detected. Buildup of unwanted dirt or condensate can be monitored allowing accurate service and clean down schedules to be planned to prevent future unplanned costly line stoppages. The illumination of the Optic system, supplied by the torch, detects airborne dust / dirt particulates as streaks across the video



image, just like a shooting star across the nights sky. Such contamination is obviously a major paint inclusion quality concern. The video captured not only identifies the paint quality risk but allows location of the contamination source allowing quick corrective action.

Problems with conveyor systems and erratic movement of products through the oven can be identified at the exact location they occur. By monitoring the product surface, paint defects such as paint sags or curtains, paint or rinse entrapment or condensate contamination may also be detected.

A number of major international automotive manufactures are now employing the Optic system as a key monitoring tool to maximise the operational efficiency of their ovens. Many have been amazed to discover what was happening inside the oven during live production.

Don't work in the dark but use the PhoenixTM system to truly open your eyes to exactly what you can discover in the mystery that is your paint cure oven! Whether temperature or optical monitoring PhoenixTM your Finishing Oven to find, fix and forget those paint cure problems!

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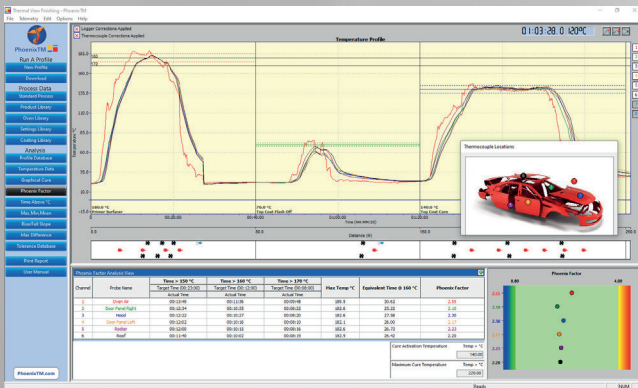
Temperature Profiling Systems



Comprehensive Range

- Data Logger and Thermal Barrier choice (6 to 20 Thermocouples)
- Extensive Thermocouple range
- Real Time RF Telemetry options
- ATEX approved options
- Full UK service and calibration support

Oven Profile and TUS software



Software Packages to Suit

- Thermal View or enhanced Thermal View Finishing software
- Match Analysis Tools to suit.
- CQI-12 Temperature Uniformity Survey solution options

Optic Video Profiling System



Innovative Video Capture Thru the operating oven

- Detect paint runs, chips and defects
- Spot transport problems
- Identify oven damage
- Locate dust and inclusion risk areas

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