

PLASTIC INJECTION

The Opportunity

The quality of plastic injection-moulded components depends essentially on tooling design (e.g. heating and cooling system). Only with optimum mould temperatures can a moulder guarantee high dimensional stability and surface quality of finished components. Especially with multiple-cavity moulds, temperature uniformity is vital for achieving identical tolerances throughout the mouldings in the various cavities.

Thermographic systems make a major contribution to obtaining optimum tool temperature. For infrared measurements it is important to know, however,

that these moulds have highly reflective surfaces. This can be overcome either by blackening the moulds, or by means of an "indirect" observation of the moulds. With this indirect measurement, temperature distribution is monitored on the injection mouldings (having a temperature of 60 to 110 °C), after completion of the moulding operation, and checked for thermal anomalies. This procedure is ideally suited for drawing conclusions about the temperature distribution in the mould, allowing moulders to decide on possible improvements if the need arises.

Our Solution

"Indirect" measurement using the MC320 stationary thermal imager

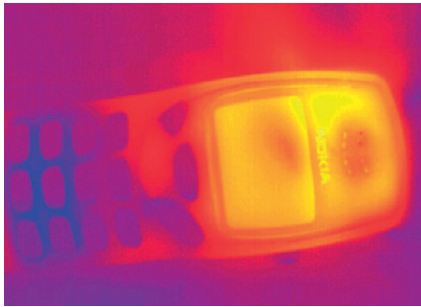
- Measurement of the injection mouldings immediately after completion of the moulding operation
- Precise measurement of the temperature distribution on the parts (high camera resolution of 320 by 240 pixels)

Real-time thermal imaging software LumaSpec™ R/T

- Real-time analysis and display of temperature data (e.g. HotSpots, Isotherms)
- Setting of measurement triggers (e.g. measurement of the part in the open mould)
- Systematic monitoring of user-defined regions with automatic alarming mode
- Integration into an existing company network via Ethernet, and possibility of connection to a PLC

Your Benefits

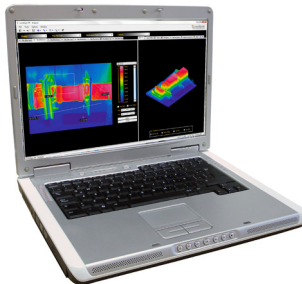
- ✓ Fast setup of new moulds
- ✓ Control the optimum temperature in the production process
- ✓ Reduce cycle times
- ✓ Minimize costly rejects
- ✓ Quick and simple integration of the measurement system into the existing company network via Ethernet



Thermal image of a component



MC320 Thermal Imager



LumaSpec R/T Software