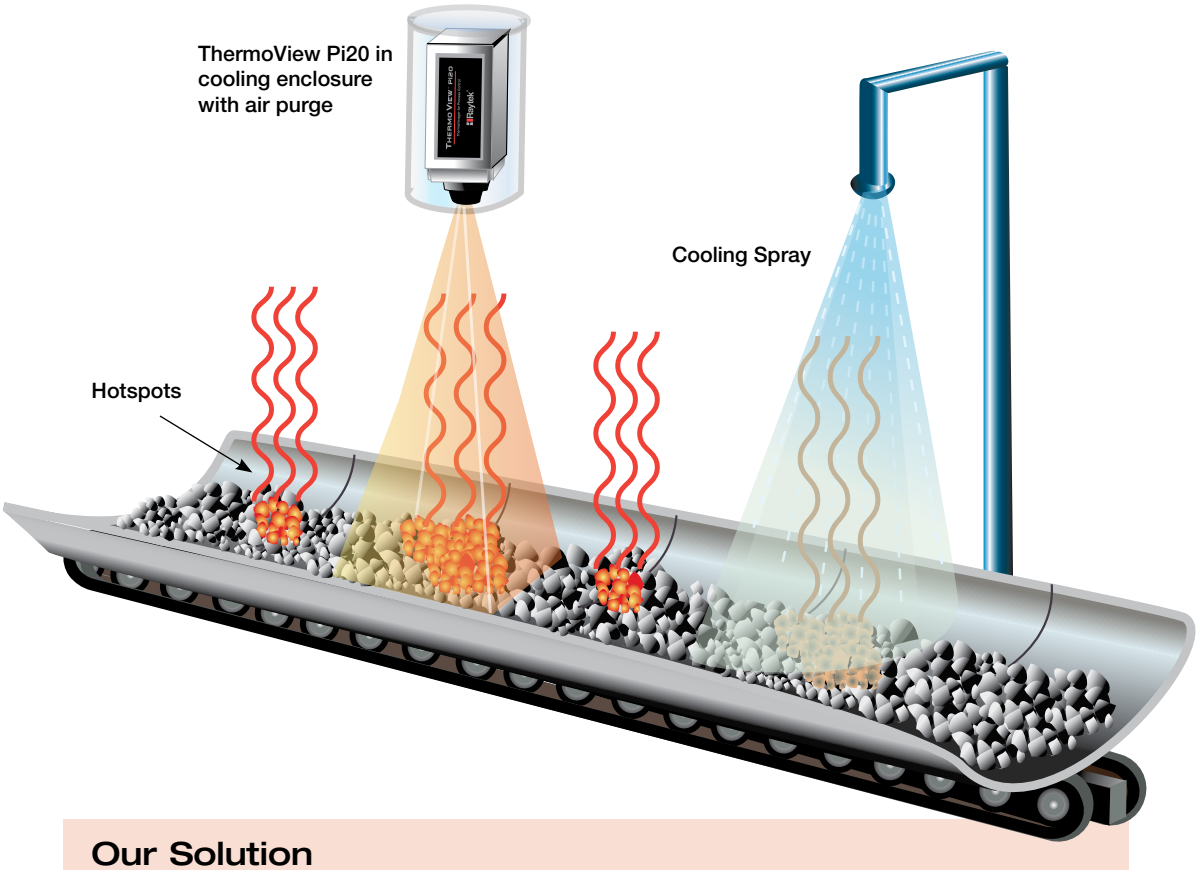
# ThermoView™ Pi20

## Coke Clinker Hotspot Monitoring

## Thermal Imaging for Industrial Applications



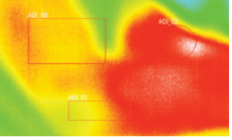

### Our Solution

- Raytek® ThermoView™ Pi20 High Performance Thermal Imager with protective enclosure/air purge and DataTemp® DTPi Software

### Benefits

- Elimination of waste from destroyed conveyor belts damaged by hot clinker
- Improved quality control
- Labor savings with fixed, automated thermal imaging
- Paperless recording and data storage

Raytek®
A Fluke Company



Coke used for blast furnaces in a steel mill is produced in a coke battery. After the coke is processed, the coke “clinker” is pushed out of the coke oven into a railroad car or “quench car” and cooled with large amounts of water down to 150-200ºC (300-400ºF). It is then dumped onto the coke wharf and spread out for additional cooling and quenching of any hotspots. Unfortunately, not all the hotspots are quenched during this process before the clinker slides off the wharf onto a conveyor belt and is transported to the bunkers for storage.

Clinker placed on the rubber conveyor belt that is hotter than 250ºC (500ºF) will cause the rubber conveyor belt to burn. The pieces of clinker can be as small as 50 mm (2 inches) and of course, they are moving on the conveyor. The conveyor can be as wide as .9 m (36 inches) and is moving at speeds of 61 m (200 feet) per minute. The problem is to detect these small pieces of hot clinker, so that additional water sprays can be activated to quench and cool them.

In addition, the coke placed on the conveyor belt may be piled as high as 300 mm (12 inches), so there is a possibility the hot clinker may not be detected under any cooler coke placed above it. To correct this, it is suggested that the camera be positioned where the coke falls off of one conveyor onto another, so that the system sees the hot clinker as it falls through the air and is not buried under cooler coke. In some mills, cameras are placed in two locations, so the second camera can be sure to detect any hot clinker missed by the first camera.

A Raytek® ThermoView™ Pi20 thermal imager can view the entire width of the conveyor and easily detect hot clinker as small as 50-75 mm (2-3 inches) in diameter, with temperatures as low as 250ºC (500ºF). An alarm is included and can be used to trigger the water quench. At the same time, the Pi20 thermal imager can provide the average temperature of the cooled coke for the purposes of quality control and for recording temperatures.